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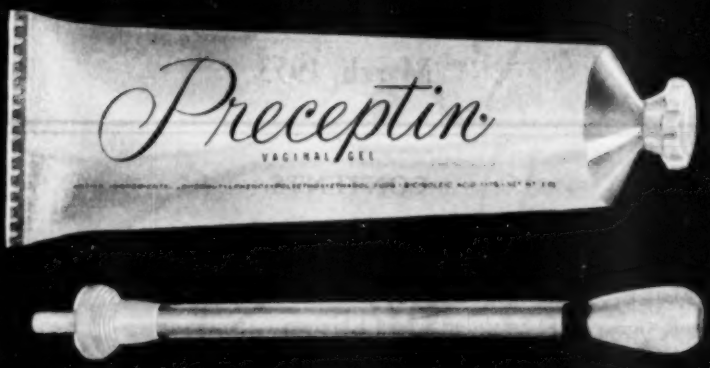

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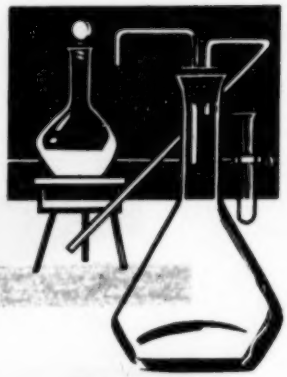

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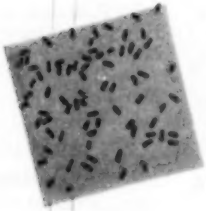

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[1]Dahlberg, A. C. and Loosli, J. K. Nutritive value of commercial ice cream. J. Am. Diet. Assn. *24*:20 (Jan.) 1948.
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(1) *Culbert, R. W., et al: Amer. J. Pub. Health,* 40, *1089-1095 (1950).*
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(6) *Scully, J. P., et al: J. Invest. Dermat.,* 10, *111-118 (1948).*

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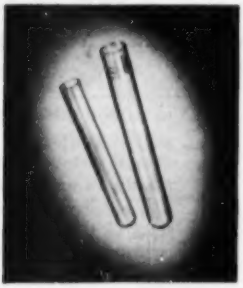

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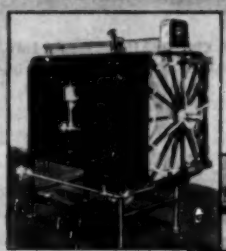

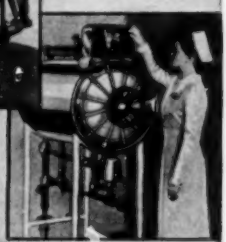

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American Journal of Public Health
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"The budget is, after all, a plan of work with dollar signs attached." Also, it is frequently an invitation for the appropriating fathers to wield the axe. If the budget is a performance budget—one that provides a measure for departmental efficiency, and estimates work volumes, while setting service standards—then it tends to foster realistic appropriations. Recounted here is one city's experience.

Performance Budget in Public Health Management*

Experience of the City of Richmond Department of Public Health

WILLIAM R. HARTON, JR., EDWARD M. HOLMES, JR., M.D., M.P.H., F.A.P.H.A., AND JOHN A. DONAHO

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THROUGHOUT the years many health officers have paid little attention to the administrative details involved in conducting their health programs. Health officers have been all too prone to delegate such tedious tasks as budget preparation, financial reviews, etc., to subordinate staff, who, in many instances, have been poorly equipped for such assignments. At the opposite extreme, some health officers have become embroiled with the administrative details of cumbersome budget systems to the extent that they have been unable to give the necessary attention to broad planning and over-all medical direction. It is only within relatively recent years that major health departments have begun to employ trained and qualified administrators. Also, it is only recently that schools of public health have begun to emphasize the importance of administrative services.

Recent changes in American public health have caused progressive health workers to modify their basic concept of health work. The preventive aspects of the health program will always be of paramount importance. However, the

* Presented before the Health Officers Section of the American Public Health Association at the Eightieth Annual Meeting in Cleveland, Ohio, October 21, 1952.

decreasing emphasis on communicable diseases and the increasing attention being given to chronic diseases, problems of the aging, and medical care have forced health workers to realize that the inauguration and operation of these new programs call for administrative procedures that are flexible and which permit continual program evaluation. In order to conduct a modern health department efficiently, we must have available effective tools of management in the form of modern budgetary and accounting systems.

It is to be expected that the legislative body will scrutinize most carefully all requests for funds, particularly if such requests are made for the purpose of inaugurating new programs. Therefore, there is a need to sell new health programs to the public, to the central administrative agencies, and to the legislative body. To do this, it may be necessary to deviate from established budgetary patterns of the past in an effort to justify and explain increased requests for funds. Also, in a period of inflation and rising costs, increased funds must be requested each year to continue to provide even basic minimum services. Adequate explanation is necessary, therefore, to avoid the curtailment of existing services because of a reduction in the budget request. Reviewing personnel should be made fully aware of the effect that any contemplated budgetary revisions may have on the work program. The budget is, after all, a plan of work with dollar signs attached.

No doubt one of the major public health administrative problems today is that of educating government administrators and legislators to the needs of health agencies and as to why some of our needs and requirements may vary from those of other agencies. A universal complaint among health departments is that central personnel and budget departments do not understand or grasp the specialized problems peculiar to the field of public health. Therefore, it is essential that we present all available pertinent facts and figures necessary to enable these reviewing agencies to make sounder decisions on the problems affecting the health of the public.

All problems, of course, cannot be solved by improved budgetary processes. However, great strides can be made through intelligent application of the principles of the performance budget which is designed for the specific purpose of providing facts and figures most helpful for appraisal of over-all program activity.

CHANGING CONCEPTS IN BUDGETING

Traditionally budget preparation has been considered by health officers and administrators to be an annual chore and a time-consuming task to be completed as soon as possible. The budget was then stored with other documents on the library shelf until the beginning of the next fiscal period. All too often budgeting has been based on the premise that the budget should be only a financial statement and a request for funds. In the past many health department budgets have been prepared in such a manner as to provide little correlation between services rendered and the funds requested. In many agencies the burden of detail work imposed on the administrator and his staff has been so great that the justification of estimates have been arrived at to a large extent on a purely speculative basis. In turn, appropriating bodies, not having a clear concept of the program involved or the funds needed, routinely slashed such budgets on a percentage basis, because the items to be purchased and not the services rendered were emphasized. This occurred year after year, resulting in the official agency overestimating its actual needs and, in turn, having its requests refused by the reviewing body. One particularly prevalent practice was that

of reckless spending at the end of the fiscal year in order to be sure that no funds remained to be returned as an unexpended balance. A proper budgetary control and allotment system combined with an adequate description of the service can do much to correct this situation.

The trend in more progressive localities is toward considering the budget an aid to everyday administration to be referred to frequently as a guide for program planning and execution rather than as a mere fiscal document. In order for the budget to serve such a purpose, it is necessary that sufficient data be made available which would include an overall summary of statistics, unit costs, work volume, service standards, and program description in one document as supporting data for the financial request.

THEORIES AND OBJECTIVES OF THE PERFORMANCE BUDGET

The performance budget is designed to show clearly and concisely the programs of work done and the services to be rendered in return for the funds appropriated to the governmental agency. Major emphasis is placed upon the work programs and upon the identifiable key factors in the work load, the work units, and unit cost. This procedure focuses attention upon program activity and services provided rather than upon items to be purchased. In terms of the public health nursing program, for example, it is more effective to show the total visits made and the unit cost involved than it is merely to request total funds for operation and explain that they will be used for the purchase of so many supplies and for employment of a stated number of personnel. Following such a procedure does not necessarily mean that the budget will not be cut; however, the legislative body will be less prone to make arbitrary reductions in the requested amount. Also, an excellent opportunity is provided to correlate the annual statistical report with the budgetary process, thus enabling the health department to systematically and realistically plan programs based on past experience and actual future needs.

MECHANICS OF THE PERFORMANCE BUDGET

In the preparation of the performance budget, particular emphasis is placed on a program and performance statement. This statement describes in detail the various activities and services that are provided by each individual health program. It includes not only a descriptive narrative, but also various statistical information pertaining to work volume and a breakdown of the cost for each unit of work activity which can be measured. This information is given comparatively by years and indicates trends in the costs of conducting the program and the results achieved. There has been some discussion as to whether or not a program description is necessary on an annual basis once the objectives of the program have been carefully outlined in previous budget messages. It is probably true that the program narrative should be streamlined and after initial presentation should contain only a basic description, including any changes which might affect the cost or the operation of the program. Of course, this does not alleviate the necessity for annually recording work volume, unit cost, and other statistical information basic to the intelligent interpretation of the budget request.

Supporting detailed personnel and expense schedules are prepared which show comparative information by years. These schedules are used for reference purposes by the administrative agency and are not provided for detailed legislative scrutiny. This results in more careful appraisal of program activity and diverts the attention of the reviewing agency or legislative body away from the minute details making up the

total requested appropriation. Where there is an established classification and pay plan, there is little need to incorporate detailed lists of employees and salaries in the printed budget. This information should be on hand, however, for ready reference by the initiating agency. Based on the philosophy that the primary objective of government is to provide the best possible service at the lowest possible cost, it becomes apparent that there is little difference between the purchase of man power and the purchase of equipment and supplies as long as the end result is adequate performance.

Funds may be appropriated by the legislative body in a lump sum on the bureau level, but allotted by the department involved on a program or division level. The bureau appropriation is further classified in three categories: First, expenditures by work programs, which show the total cost for the operation of each program element. The sanitation bureau, for instance, would be subdivided into programs of milk sanitation, meat inspection, housing sanitation, etc.; second, expenditures by character which reveal the cost of personal services as compared with expenditures for equipment and supplies; finally, expenditures by object, which is a breakdown of the expense classification into the various items required for the conduction of programs during the fiscal year. By assigning an accounting code classification to each of the various program units under each bureau a basis for proper cost accounting is established. The expenditures can be charged to the appropriate program on a systematic basis, and this greatly simplifies the job of figuring unit costs and provides the health officer with precise data as to the cost of operating each program of the department.

After approval of the budget document and appropriation of requested funds, allotments are made at the program level on a quarterly, semiannual, or other time basis. The quarterly allotment is widely used. The theory behind allotments of appropriations is that they will assist in controlling reckless spending and induce adherence to preplanned work schedules and budget estimates. In making allotments, consideration must be given to peak work loads, seasonal programs, purchasing schedules, and employment. Because of these factors, allotments are not routine estimates arrived at arbitrarily, but require careful planning. Since each program and its cost of operation is reviewed at the end of the quarter, it behooves the executive to complete work schedules within the allotted appropriation. Unless extenuating circumstances arise, expenditures for each quarter and each program cannot exceed the quarterly allotment; however, where justified, funds can be transferred at any time. The transfer of funds between bureaus within the department requires only the approval of the local administration. However, no transfers between various major operating agencies of the government can be effected until the final quarter, and then only upon the approval of the legislative body. In transferring funds between bureaus and programs of the health department, it is important to provide funds on the basis of service needs. An effort must be made to educate the various bureau chiefs to the fact that appropriated funds are not the personal property of the individual bureaus; that they will be allotted and, if necessary, reallotted in a manner which will serve the best interests of the department as a whole. On a still broader plane, it is the obligation of government to utilize available funds for those activities which can best meet the current requirements and demands for service from its citizens.

Regardless of how effective program planning might be, no executive can foresee all emergencies or contingencies

that may arise during the budget year. For this reason, it is essential that sufficient administrative flexibility be provided so that the administrator may cope with these problems. Prudent management requires a reserve for a contingency fund wherever possible, and this is provided during the quarterly review of program activities. If the work load of a program is lower than anticipated and surplus funds are on hand at the end of a quarter, complete justification for carrying these funds forward into the next quarter should be provided. Otherwise, these funds should be transferred into a reserve for a contingency account. This reserve account is established on the bureau level and is available for reallotment at any time during the fiscal year provided such reallotment is justified on the basis of an emergency or a need for an unanticipated expenditure to carry on an authorized program. A reserve account, in addition to providing a cushion, helps maintain administrative discipline in the various bureaus by not allowing large amounts of surplus funds to accumulate and also eliminates to a large extent excessive fourth quarter expenditures.

It is most important that the monthly financial statements be reviewed carefully in order to effectively curb expenditures or reallot funds during the balance of the quarter, keeping in mind the relationship of the expenditures to the volume of services rendered. This will be difficult, however, unless an effective accounting system is used in which the accounts classification and code have been designed to conform to the pattern in which the performance budget was prepared.

ADVANTAGES OF THE PERFORMANCE BUDGET

The performance budget is an effective tool of management in planning a well balanced program. It assists in developing program objectives and provides the elements for proper control of program and costs. Detailed information is provided as to work volume and unit cost pertaining to past, present, and future activities of the health department. The request for funds can be supported on a realistic basis as it is tied in with the anticipated work load. The data provided are complete and so arranged as to make the practice of padding the budget more difficult. If the requested funds are not provided, then it is usually necessary that work volume estimates be revised downward.

This type of budgeting aids in planning future procedures in regard to expansion or reduction of specific services as they relate to community needs. It states clearly the functions of various programs, thereby revealing deficiencies or duplications of services. Also, an important consideration is that it be prepared in a manner which permits bureau chiefs and other supervisory personnel to understand the relationships of the budget request to work output. An operational picture is provided all personnel, not only of health department activities, but of the activities of related agencies of the government which have prepared their budget in the same pattern.

The performance budget provides a qualitative and quantitative measure of departmental efficiency, for not only are work volume estimates recorded, but minimum service standards are established and outlined in the budget narrative.

The experience of the Health Department in Richmond, Va., with the performance budget shows that an intelligent legislative body will appropriate funds for health services when needs are demonstrated and requests are substantiated by comparative service figures. In the year 1947–1948, prior to the city's adoption of the performance budget, the Richmond Health Department had a total appropriation of

$841,728 for all health services. This provided a per capita expenditure of $3.83. For the fiscal year 1952–1953 the department has a total budget of $1,494,546, or a per capita appropriation of $6.49. In five years the appropriation for public health has increased $652,818, making a total per capita increase of $2.66. This increase permitted the expansion of existing programs and the addition of many new community services. New services inaugurated under this system include a home medical care program, a dental program, acceptance of responsibility for the chronically ill, and a housing sanitation program.

CONCLUSION

Regardless of how effective and enlightening a budget system may be, it must be realized that it is not a substitute for good judgment and responsible executive leadership in conducting the program. However, a budget system which emphasizes services to be rendered rather than funds to be expended will result in a more satisfactory and effective health service to the community. This is particularly true if other essentials of a good budget system are present, which would include a modern statistical reporting system, adequate accounting procedures, and finally, leadership by a competent executive who has a broad and thorough knowledge of the complete operations of the department. By conscientious application of the methods outlined, considerable improvement in existing budgetary and fiscal procedures can be effected.

CDC 1953 Field Training Programs

The U. S. Public Health Service has just issued a 40 page outline of the field training programs to be carried out in 1953 in the eight training centers of the Communicable Disease Center in seven states. It contains a full description of courses, eligibility, and other information. Ellis Tisdale, sanitary engineer director, is chief of the Training Branch of the center. Presumably the bulletin is free of charge from the Communicable Disease Center, Atlanta, Ga.

The bulletin does not include laboratory courses given by the Laboratory Training Services at the Chamblee, Ga., laboratory of CDC, information about which must be requested separately.

Throughout the 1920's a steady succession of papers on endemic goiter were published in this Journal. Since that decade we have had fewer references to this public health problem. So it serves as a salutary reminder to be told, in this survey, that many children are still found to have enlarged thyroid glands.

Endemic Goiter in El Salvador School Children*

ADELA CABEZAS, M.D., TOMÁS PINEDA, M.D., AND NEVIN S. SCRIMSHAW, PH.D., M.D.

Dirección General de Sanidad, San Salvador, El Salvador; and Institute of Nutrition of Central America and Panama, Guatemala, Central America

ENDEMIC goiter is known to occur in the interior of the North American Continent, in Mexico, Colombia, and the inland areas of most of the countries of South America. It is reasonable to suppose that endemic goiter would be found common in many areas of Central America and Panama, especially the highland plateaus. Since the establishment of the Institute of Nutrition of Central America and Panama (INCAP) in 1949, extensive surveys have been conducted to determine the incidence of endemic goiter in this area. As a result, endemic goiter has been shown to be a serious public health problem in Guatemala, El Salvador, Honduras, and Panama. Of these countries, the first to complete endemic goiter surveys of all representative areas is El Salvador.

The present report is based upon the examination of nearly 35,000 school children in both urban and rural areas in all 14 departments. Its purpose was to ascertain the magnitude of the public health problem in El Salvador in respect to this condition and to demonstrate the necessity of a control program.

MATERIAL AND METHODS

School children of all ages in both public and private schools were examined in the capitals of all 14 departments, and when possible children in several localities in each department outside of the capital were studied in a similar manner. The school children examined represent approximately 2 per cent of the total population of the country and 5 per cent of the total number of school children. Coverage of urban areas was somewhat more complete because of their greater accessibility and the larger number of children easily available for examination.

For the purpose of the survey, the thyroid of each child was first inspected with the head thrown back. The gland was then carefully palpated with the head forward and the neck muscles relaxed. Glands were not considered enlarged unless they were definitely four to five times "normal" size. Normal size was considered to be approximately that of a large lima bean, although this concept had to be adjusted somewhat to the age and size of the child. In case of doubt the gland was not recorded as enlarged. Glands easily palpable or visible with the head thrown back but

* INCAP Scientific Publication I-18.

TABLE 1

Endemic Goiter in El Salvador School Children

Department	In the Capital City		Outside the Capital City	
	No. Examined	*Per cent Positive*	*No. Examined*	*Per cent Positive*
1. San Salvador	8,119	1	2,893	26
2. La Libertad	1,525	22	1,171	27
3. Cuscatlán	993	25	453	23
4. Cabañas	353	24	419	9
5. La Paz	1,256	10	719	24
6. Chalatenango	653	23	—	—
7. San Vicente	1,120	17	475	29
8. Usulután	719	12	997	32
9. San Miguel	2,459	7	132	39
10. Morazán	387	33	—	—
11. La Unión	472	18	—	—
12. Santa Ana	3,261	21	397	28
13. Sonsonate	1,179	41	595	31
14. Ahuachapán	901	26	763	54
Total	23,599	13	9,014	29

not visible with the head in normal position were classified as size one. Glands clearly visible with the head in normal position were classified as size two, and size three enlargements were coded only when the goiter was visible at a distance.* The presence of nodules was always noted.

RESULTS

The number of children examined in the capital city of each department and in the remaining population are given in Table 1, together with the percentage of endemic goiter found. Of the total number of enlarged thyroids only 6.2 per cent were size two and size three, although in individual schools the percentage of enlarged thyroids of this size was as high as 18.1 per cent. On the basis of the total school population of each department capital and remaining area and the percentages of endemic goiter listed in Table 1, it can be estimated that at least 119,000 children out of the 673,100 in El Salvador reported in the last census have endemic goiter by the criteria described.

The distribution of endemic goiter by age and sex is given in Table 2. In the 5–9 year age range the incidence was only slightly higher in girls than in boys. In the 10–14 year age range the incidence increased in both groups, although the increase among the girls was more marked. Of the children 15 years of age and upward there was a still further increase in the incidence of endemic goiter in the girls and a slight decrease, of doubtful statistical significance, in the boys.

DISCUSSION

The data clearly demonstrate that endemic goiter is a serious public health problem in El Salvador. For several reasons, these figures are most certainly conservative. First, because with the criteria employed many definitely enlarged thyroids were palpated which were not considered to be more than four to five times enlarged and all doubtfully enlarged glands were considered normal for purposes of the tabulation. Second, because coverage of the rural areas in which the higher incidence apparently occurs was not as complete as coverage of the urban areas which tended to have a lower incidence. Although scattered schools were ex-

* These are essentially the criteria of Dr. O. P. Kimball who visited the area personally in May, 1950, as a World Health Organization consultant in endemic goiter, and who initiated the surveys and demonstrated the technics of examination.

TABLE 2

Incidence of Endemic Goiter in El Salvador School Children Classified by Age and Sex *

Age	Boys		Girls	
	No. Examined	*Per cent Positive*	*No. Examined*	*Per cent Positive*
5– 9	3,268	8.6	3,909	10.2
10–14	7,346	14.2	8,099	18.2
15+	1,833	12.6	2,225	21.8

* This table includes only children examined by A. C.

amined to determine the incidence in the departments outside of the capital cities, these of necessity were still located in concentrations of population not truly rural. Third, in an adult group studied, 350 soldiers from many parts of the country living in the departmental Capital of Santa Ana, an incidence of 32.6 per cent was found, higher than in school children in the same area.

Although the incidence figures cited presumably are minimum ones, it is apparent that the deficiency is relatively mild in most areas. Nodular goiters considered by Kimball [1] to be associated with iodine deficiency in the mother were not common in El Salvador. By contrast, nodular goiters are common in the highlands of Guatemala.[2, 3] Furthermore, the number of easily visible enlarged thyroids was relatively small except in certain areas.

The deaf-mutes, idiots, and cretins commonly found in association with iodine deficiency in highly endemic areas were not observed in El Salvador, although they have been encountered occasionally in Panama and Guatemala.[8]

It would be interesting to speculate on the total number of persons in El Salvador at the present time with endemic goiter. Extensive studies in adults have not yet been carried out. However, as mentioned previously soldiers stationed in the Department of Santa Ana and coming originally from many parts of the country were found to have an incidence slightly higher than school children in the same area. If the average figures for school children can be taken as reasonably representative of the population as a whole, El Salvador would have a total of 329,000 persons with endemic goiter out of the population of 1,856,000. For the reasons discussed, the true incidence is probably considerably higher.

The salt used in El Salvador is entirely derived from the sea and crystalized by solar evaporation and further drying with artificial heat. The average iodine content of this salt as determined by the laboratories of the Institute of Nutrition of Central America and Panama is 0.22 parts per 10,000 of salt. None of the 22 samples analyzed was found to have more than 0.57 parts of iodine. The quantity recommended in salt to prevent endemic goiter under ordinary circumstances is 1 part of iodine per 10,000 parts of salt.

Little is known of the action of goitrogenic substances in this area. Vitamin A deficiency has been reported to increase the amount of endemic goiter.[5, 6] The diets in El Salvador generally contain inadequate amounts of vitamin A. Known goitrogenic foods such as cabbage are not consumed in large quantities by the population. Excessive calcium is known to increase the requirement of the body for iodine,[4] but the calcium content of the diet is relatively low.[7]

On the basis of the data presented it is concluded that endemic goiter constitutes a serious public health problem in

El Salvador and that all salt destined for human consumption should be iodized. Less complete surveys which have not yet been reported suggest that this is also true for Guatemala, Honduras, and Panama.

SUMMARY

Nearly 35,000 school children were examined for endemic goiter in all 14 departments of El Salvador. Of 8,000 children examined in the Capital City only 1.1 per cent were found to have thyroids more than four to five times enlarged. Of the 26,400 children examined in the remainder of the country, the average incidence was 22.8 per cent, although it varied from 8.5 to 38.7 per cent depending on the department. The incidence of easily visible enlarged thyroids was relatively small, 6.2 per cent of the total with goiter. Deaf-mutes, idiots, and cretins were not observed.

On the basis of the samples studied it is estimated that the total of 119,000 school children in El Salvador out of a total school population of 673,000 are affected. Endemic goiter is thus a serious public health problem in El Salvador and the iodization of all salt for human consumption is recommended. The average iodine content of the salt presently in use was found to be 0.22 parts per 10,000 of salt. Except for the possible importance of the widespread dietary deficiency of vitamin A, no goitrogenic factors have been identified.

ACKNOWLEDGMENT — The authors gratefully acknowledge the interest and support of Dr. Juan Allwood Paredes, director of public health of El Salvador, and of Drs. Erasmo Saldaña, Jorge Ramos, and José Comandari, who assisted in the examination of children in the towns under their jurisdiction as public health physicians. Miguel Guzmán of INCAP supervised the final tabulations of the data.

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The findings of this research will come as news to most health workers. Avirulent strains of the diphtheria bacillus—once assumed to be completely and permanently harmless—can be transformed into a virulent strain by a sort of modern-day, bacteriologic alchemy.

Bacteriophage and the Toxigenicity of *Corynebacterium diphtheriae* *

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A PROBLEM of long standing in diphtheriology has centered around the stability of virulence (toxigenicity) of *Corynebacterium diphtheriae*. Some workers have maintained, on epidemiological and other grounds, that the virulence of diphtheria organisms in the throat of convalescent carriers eventually declines and disappears. Laboratory workers, who have investigated this phase of the problem most extensively, are almost unanimously opposed to this view. Experimental studies of freshly isolated strains from carriers support the aphorism, "Once virulent, always virulent." With only one or two possible exceptions, *in vitro* studies of old laboratory stock strains have regularly supported this view. Virulent *C. diphtheriae*, while still retaining distinguishing morphological and cultural properties, rarely, if ever, lose virulence. Virulence in this sense appears to be a very stable property.

Formerly the converse was believed, i.e., that avirulent strains † never acquire virulence and hence may be ignored in the epidemiology of the disease. We must now abandon that position. As a consequence, our entire outlook on the natural history and epidemiology of diphtheria must be altered.

In 1951 Freeman [1] described the development of toxigenic strains of *C. diphtheriae* from cultures of avirulent *C. diphtheriae* as a result of contact or infection with specific bacteriophage. His experimental controls showed that the bacteriophage suspensions were free from lurking, virulent organisms and that, to begin with, his supposedly avirulent strains were truly avirulent. The change from avirulence to virulence was observed to occur readily with his cultures and there was no doubt of the virulence of the derived strains.

Working with the same phages and cultures, as well as with others, Parsons and Frobisher [2] fully confirmed the original observations. These workers showed, in addition, that culture-to-culture passage enhanced the activity of certain phages toward strains upon which they had previously acted very weakly if at all.

Later, Freeman and Morse [3] showed that avirulent subcultures derived from

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† Strains indistinguishable from virulent *C. diphtheriae* except by test of toxigenicity in animal or by the *in vitro* virulence test.

single cells of the original avirulent strains were susceptible to induction of virulence by phage. This apparently disposed of the question as to whether the derived virulent strains arose from occasional virulent cells which were present as mutants in supposedly avirulent cultures, and which were unmasked by lysis of the avirulent cells. In further support of this, serological homogeneity of the derived virulent and parent avirulent cells was established. It was also found by these workers that the derived virulent strains were permanently lysogenic; an observation which suggests that the toxigenicity of the derived cells is related to the continued presence of phage. Whether these lysogenic cells represent a type of mutant is a matter for discussion at a later time when we shall possess more information on the role of phage in genetics and the possible existence of "living plasmagenes."

Later, Groman [4] published data on the rate of appearance of virulent cells in populations of avirulent bacilli in contact with phage. These rates far exceeded the "normal" rate of mutation, if indeed there is normally any mutation to virulence. Experiments by Groman with desoxyribonuclease suggested also that the change to toxigenicity does not result from transfer of a soluble, nonliving, transmissable mutagen related to desoxyribonucleic acid. This supports the view, held also by us, that virulence arises as a direct result of infection of cell by phage.

In August, 1952, Hewitt [5] made similar observations. It is not clear in his report whether toxigenicity was related to continued lysogenicity in the derived clones since he states, ". . . some . . . (strains of diphtheria bacilli) were found to be susceptible (to phage) and the others were *completely resistant*. . . . the phage-resistant strains were all virulent and toxigenic, whereas the susceptible strains were avirulent. . . . When the susceptible strains were subjected to the action of the bacteriophage, organisms grew out which were resistant to lysis; and a number of these phage-resistant *mutant* strains were found to be fully virulent and toxigenic." However, he later speaks of lysogenicity in cultures (presumably virulent ones) "selected at random." Hewitt accepts the view that toxigenic clones result from selection of already-present, toxigenic, phage-resistant mutants by lysis of nontoxigenic, phage-susceptible cells. As an interesting corollary, this investigator adapted *Staphylococcus* phages to diphtheria bacilli; an unprecedentedly large taxonomic gap to be bridged by phage adaptation. It is not stated whether the *Staphylococcus* phages induced toxigenicity in the diphtheria bacilli to which they were adapted.

Studies on the relationship of bacteriophage to virulence in *C. diphtheriae* have been continued by Parsons in the diphtheria laboratory of the Communicable Disease Center and have yielded some additional data which seem of sufficient interest to report at this time. It was soon found that not all diphtheria phages and avirulent strains act in the same way. Different methods of handling are required. The most generally useful procedure in the Communicable Disease Center diphtheria laboratory was as follows:

1. With the avirulent strain to be studied, prepare a culture in heart-infusion broth (HIB), pH about 7.8, and incubate at 37° C. for 6–8 hours.

2. To 5 ml. of sterile HIB (at appropriate pH) add 0.25 ml. of bacteria-free phage suspension and 0.25 ml. of the young broth culture previously prepared.

3. Incubate overnight. Now, it has been found that some phages act best at about 30° C.; some act best at pH 7.0. With an untried phage, therefore, make preparations for incubating at pH 7.0 and pH 7.8 and at 30° C. and 37° C.

4. Centrifuge the phage culture at about 10,000 r.p.m. for 30 minutes. Remove supernatant with a capillary pipette and bulb.

5. Streak a plate of heart-infusion agar with the sediment; also inoculate the sediment onto a plate prepared for the *in vitro* virulence test (IVVT).[6] Both plates are held overnight or longer at appropriate temperature.

6. From the plate inoculated with sediment fish *obviously lysogenic* colonies to an IVVT plate. These are toxigenic colonies and are usually numerous; far more so than would be found with the "normal" mutation rates. In fact, toxigenic colonies have never been found in avirulent cultures without phage, in spite of assiduous search by many workers. Only colonies showing marked lysis exhibit virulence.

7. The supernatant fluid is held for 20 minutes at 53°–55° C. This kills the bacteria and leaves an active phage suspension which may be used for such purposes as propagation, titration, and testing new strains.

For titration a young broth culture (at appropriate pH) is prepared as in paragraph No. 1 above. For some strains which grow in a granular form (gravis type) or which are dysgonic (minimus type) it is desirable to add 0.05 per cent Tween 80 to the broth to insure good growth with even turbidity.[7, 8] Hold the culture at appropriate temperature overnight; centrifuge, discard the supernatant, and resuspend the sediment in HIB to a density of about 8 on the McFarland scale. This suspension is dispensed in 0.25 ml. amounts and stored with "dry ice." For use, the sediment is thawed (do not refreeze) and is spread on the surface of a superficially dry agar plate in spots about 1 cm. in diameter arranged circularly. After drying 2 or 3 hours at room temperature drops of successive 10-fold dilutions of the phage to be titered are placed on the successive inoculated spots on the plate. The plate is held overnight (or longer) at an appropriate temperature and phage action is then recorded.

Without going further into technical detail it may be said that, using such materials and methods, it has been found:

1. The activity of a given phage for some strains of diphtheria bacilli may be increased from 10 or 100 up to 10,000 or even 100,000. In general the potency of these phages, as measured by dilution-spot titrations on agar plates, is low as compared with the potency of some phages specific for streptococci or Enterobacteriaceae.

2. Of 44 strains of avirulent *C. diphtheriae* so far tested, the change to virulence has been induced in only 8, using 6 different bacteriophages for each culture.

3. Virulence may be induced in a given strain by one phage but not by another.

4. Although 2 phages specific for, and propagated continuously on, virulent, gravis-type *C. diphtheriae* have been among the 6 phages used in these studies, no avirulent gravis strain has acquired virulence as a result of phage action. However, only 6 gravis strains have so far been tested.

5. The change of virulence has so far been induced only in mitis-like strains, in spite of as many as 50 culture-to-culture passages with some avirulent strains. In some instances virulence appeared after only 3 passages.

6. In previous publication by Parsons and Frobisher, a suggestion was made that virulence may be more readily induced in avirulent strains isolated from clinical cases of diphtheria than in strains from healthy carriers. Since virulence has so far been induced in only 8 strains in all, and since source is not certain in some of these, no final conclusion is available as yet on this point.

7. One final observation requires special note. "Several centrifuge sediments from lysed cultures were injected intradermally into a rabbit as in the standard technic of the virulence test.[9] The *heated* supernatants (phage suspensions) were injected into the adjoining squares. In two instances (A8188 [15] + F phage [36] and A8613 [7] + A69 [(324)]) both sediment and supernatant (the latter free from demonstrably viable cells) gave typical, positive virulence tests specifically controlled by antitoxin." This has been tried with other phages and cultures, but so far has been redemonstrated with only these 2 phage-culture combinations. The reactions in the rabbits are probably due to toxin in the broth. Whether this toxin is of intracellular origin, released by phage lysis, or whether it is normal exotoxin formed during the overnight incubation period by the newly developed toxigenic cells remains to be determined.

SUMMARY

Progress is reported in the methodology and investigation of the effect of bacteriophage on toxigenicity of *C. diph-*

theriae. The fact that the change occurs has been well established, and the effects of pH and temperature on the reaction have been studied. Not every phage affects every culture. The change appears to occur with difficulty or not at all in most strains, and so far only in mitis and mitis-like strains. All phage-derived toxigenic clones are obviously lysogenic. The numbers of toxigenic cells developing in avirulent strains in contact with phage far exceeds that normally observed; the only "normal" rate so far reported being zero. On some occasions, what appeared to be bacteria-free bacteriophage suspensions have yielded typical virulence tests in rabbits. The reactions seem to be due to toxin, but the origin of the toxin is not clear.

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Public Health Nursing Scholarship

The Frances Payne Bolton School of Nursing of Western Reserve University has made available a $600 scholarship for a graduate nurse for the program in public health nursing for the academic year 1953–1954. It will be awarded to a graduate nurse who meets the entrance requirements of the program, who plans to complete the program on a continuous basis, and who indicates an interest in entering or remaining in the field of public health nursing.

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Suggested in this paper are serologic tests that may be set up in connection with pilot studies during the demonstrational, survey, or training phases of a mass attack upon tropical disease.

Laboratory Aids in Mass Treatment Campaigns Against Treponemal Diseases*

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IT is generally agreed that the serologic laboratory can and should play an important role in mass treatment campaigns against yaws. The decision as to when routine serologic testing should be performed, which serologic procedure should be employed, and the frequency and duration of post-treatment serologic examinations will depend on many factors which include, adequacy of laboratory facilities, availability of trained personnel, climate, geography, customs, mores, cooperation of local and international health authorities, and many other conditions which may vary in different areas of the world. Unfortunately, the facilities for satisfactory serodiagnosis are the least adequate in those areas where the incidence of yaws is the highest.

The ideal situation in mass treatment campaigns would be the enforcement of a house-to-house canvass where all individuals in a given community would be subjected to a careful examination for any clinical or anamnestic evidence of yaws as well as to a serologic examination. This type of survey is often impossible, impractical, or too difficult. It has been repeatedly demonstrated that if the health authorities depend on voluntary attendance, only 25 to 50 per cent of the individuals will present themselves for treatment, whereas from 80 to 90 per cent of the individuals can be examined and treated by means of a house-to-house canvass.

There are definite limitations in any treatment campaign based solely on clinical examinations. This method would miss those patients with no clinical manifestations who are in the incubation stage of yaws. Furthermore, it would not be possible to detect the seropositive asymptomatic latent yaws patients, who may ultimately develop cutaneous relapses and thereby set up new infectious reservoirs. Furthermore, if one depends entirely on a clinical survey, there will be included some nontreponemal diseases that will respond to penicillin therapy, thereby causing a fallacious increase in cures. This type of survey would also include some nontreponemal conditions which do not respond to penicillin, resulting in a fallacious decrease in cure rates. The number of patients with nontreponemal conditions subjected to penicillin therapy would depend on the diagnostic acumen of the clinicians. Dependence on anamnestic evidence is also fraught with difficulties. The word soon gets around

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among natives that they will receive some "magic medicine" if they will state that they have had yaws and this they will gladly do with the hope that it will cure their bone pains and malaise, as well as many imaginary ills.

There are also many limitations to a serologic survey, since a house-to-house serologic examination of all inhabitants would slow up the work considerably. Furthermore, the interval between serologic survey and institution of treatment would require several days and some of the individuals requiring therapy would not be available when the treatment teams revisited the houses. This type of survey would require extensive laboratory facilities to examine the large number of blood specimens and well trained serologists to evaluate the results.

Mass treatment of yaws can be carried out effectively before establishing adequate serodiagnostic facilities. It is sometimes quite impractical to await the development of modern serodiagnostic laboratories before instituting mass therapy.

As Magnuson [1] has stated so well, the problems in combating yaws are similar to those in shooting down attacking enemy planes. "Where the sky is full of planes, our first and immediate concern is to fill the sky so full of flak that the damage the enemy can do is minimized. Under such circumstances we can be rather indiscriminate about our aim and ask only for enough people to man enough guns to fire enough ammunition in the area to shoot down the attacking force. When the number of attacking planes is small, we change our tactics. It is foolish to fill the sky with flak to shoot down one or two planes. In this instance we need precision aiming mechanisms, accurately controlled and well manned."

In high prevalence areas it may be feasible to treat entire populations, i.e., infectious cases and contacts without regard to serologic examinations. In low prevalence areas, however, there is a great need for careful clinical and, where possible, serologic examinations with tests known to have high levels of sensitivity and specificity. In those areas where the incidence of biologic false-positive reactors remains constant, and the number of patients with yaws decreases, the relative proportions of biologic false-positive tests will increase. Clearly, there is great need for a simple, inexpensive, and yet consistently effective serodiagnostic procedure in low prevalence and underdeveloped areas with inadequate laboratory facilities and insufficient trained technicians. To date, the filter paper method and the various modifications of the Chediak reaction have not been proved to be of sufficient sensitivity and specificity as compared to the standard tube or slide tests performed on serums.[2] In my experience [3] the use of capillary tubes for collection of specimens has been found to be satisfactory in the United States, but this would not be a practical approach to the yaws problem because of the lack of laboratory facilities and trained personnel.

In the development phase of a mass treatment program the laboratory aspects must be considered from two points of view, the mass group and the pilot or control group. If serodiagnostic procedures are to be employed for the mass group, there must be a careful selection as to the type and sensitivity of the test dependent upon certain factors:

a. Method of obtaining blood specimens—If it appears that the only feasible means of collecting blood is by finger puncture, it would be necessary to utilize a filter paper method, a modification of the Chediak test, or the capillary tube technic.

b. Sensitivity level—One should make use of the most sensitive test possible, without decreasing its inherent specificity level as a screening procedure. The seropositive reactors can then be carefully examined and questioned for any clinical or anamnestic evidence of yaws.

LIMITATIONS OF MASS SEROLOGIC SURVEYS

1. *False-negative reactions*—Negative serologic reactions are to be expected during the incubation period of the disease. This seronegative phase may persist for six weeks or longer after exposure to infectious yaws. The duration of this seronegative phase will depend on several factors, including the size of the infectious inoculum, the patient's individual immune response, as well as the sensitivity and the type of the test employed. There is some evidence to indicate that in early yaws certain tests of the complement-fixation type may become positive before some of the tube and slide flocculation procedures. Seronegative yaws may be due to a number of factors, as (1) the amount of circulating antibody is minimal and cannot be detected by tests with ordinary sensitivity; (2) the presence of too much antibody so that negative zone reactions occur; (3) the use of serologic tests with low levels of sensitivity; (4) the use of fresh serum containing considerable amounts of thermolabile-inhibiting substances, and (5) the presence of a thermostabile-inhibiting substance in the albumin fraction of the serum.

It should also be pointed out that true-negative reactions may be obtained in nontreponemal conditions which may simulate yaws, such as impetigo, tropical ulcer, purulent skin infections, and traumatic or occupational palmar and plantar hyperkeratosis. Patients with vague joint pains, malaise, and other symptoms of nontreponemal etiology may also present themselves for serologic examination and treatment.

2. *False-positive reactions*—While it is true that most positive serologic reactions obtained with our current nonspecific lipoid antigens are due to treponemal diseases and perhaps represent some type of immunologic response, it is no less true that some positive results are unrelated to yaws and represent a general biologic phenomenon. Such false-positive reactions may be caused by a variety of infectious diseases and metabolic disturbances and may be due to (1) the presence of antibody-like substances similar to the antibodies produced in treponemal diseases; (2) an alteration of the gamma-globulin fraction of serum; or (3) an increase or alteration of some chemical substance or substances in the blood. Furthermore, technical false-positive reactions may occur in sera containing no antibodies and may be due to (1) technical errors in the collection and labeling of specimens; (2) the use of unsatisfactory blood specimens (contaminated or hemolyzed); (3) errors in the performance of the serologic tests; (4) the use of faulty materials and reagents in the test; or (5) errors in recording or reporting the final results. With the improvement of serologic technics and the use of improved materials, especially purified antigens of the cardiolipin type, there has been a marked reduction in the incidence of false-positive reactions.

There is still another problem that may confront the serologist in evaluating the serologic response of an adequately treated patient with yaws. Several months or even years after completion of therapy, the patient may develop an intercurrent nontreponemal infection which would produce biologic false-positive reactions and a subsequent rise in serologic titer. Such individuals are often categorically and fallaciously classified as a serorelapse or treatment failure.

3. *Seroresistance*—Positive serologic reactions may persist in arrested and burned out cases for many years and in such individuals treatment or retreatment is not indicated. In yaws, as in other treponemal diseases, persistent positive serologic reactions do not necessarily indicate a persistent infection. A diagnosis of latent yaws should not be made on a seropositive reactor without

clinical or anamnestic evidence of the disease unless it may be possible to demonstrate specific antibodies by means of the Nelson treponemal immobilization or phagocytosis phenomenon. This, of course, is not practical in mass treatment campaigns, but it would be worthwhile considering in the pilot group. In the consolidation phase of the mass treatment program the question may often arise as to the indications for retreatment based on serologic examinations. Retreatment should be instituted if there has been a sustained rise in serologic titer which may indicate either a relapse or an asymptomatic reinfection. Retreatment should not be instituted solely on the persistence of positive serologic reactions.

There are, therefore, indications for and limitations to the use of serodiagnostic procedures in treatment campaigns. Unless one is aware of the many limitations inherent in serologic investigations, there may be many errors of omission and commission.

FUNCTIONS OF THE LABORATORY IN THE PILOT GROUP

Whether or not serodiagnostic procedures are to be employed in the mass treatment group, it is of utmost importance to set up a well controlled laboratory in the pilot group as soon as possible and preferably before mass therapy is instituted. It is during the demonstration, survey, and training phase of the program that the control laboratory can supply much valuable information that will be used during the expansion and consolidation phase, such as:

1. Dark-field disappearance time of treponemes following therapy in order to determine the immediate efficacy of the penicillin preparation to be employed. It also should be the function of laboratory personnel to determine the disappearance time following the use of the other antibiotics. It has been our personal experience that there is no appreciable difference in the dark-field disappearance time following penicillin therapy of syphilis, yaws, and pinta. It is also generally agreed that the disappearance time is more rapid following penicillin than it is following aureomycin, chloromycetin, terramycin, and dyhydrostreptomycin. Comparative studies of this type should be carried out in the pilot group. Any new treponemacidal drug should also be investigated for dark-field disappearance time in the pilot laboratory.

2. Quantitative serologic tests are mandatory in the pilot group in order to note the serologic trend following therapy. Progress may be considered as satisfactory as long as there is a progressive reduction in serologic titer. Short intensive methods of therapy with penicillin are terminated while the patient is still seropositive. If serologic tests are to be of any value in determining the efficacy of the therapy, quantitative procedures must be employed prior to and at three-month intervals for at least one year following completion of therapy in the primary control area. As a minimum requirement, tests should be done at least at six and twelve month intervals.

In an article on studies in penicillin treatment of syphilis by Arnold and his associates,[5] they state that "In judging the success or failure of therapy, the ideal serologic follow-up of patients consists of an examination every two weeks, or at least every month, for the first 6 to 12 post-treatment months. In the evaluation of an experimental therapy, a battery of qualitative serologic tests and a quantitative test, performed regularly, is advantageous for observation. However, in a public health program or in routine therapy utilizing a schedule known to be effective, essential information may be gained from the regular use of one qualitative and one quantitative test performed preferably with a cardio-

lipin-lecithin antigen." A careful selection should be made of a test of maximum specificity and optional sensitivity for this purpose.

There are several factors which influence the length of time required to attain seronegativity:

a. Stage of disease—The older the disease, the longer the spirochetes are present and the longer it takes for the body cells to stop forming antibodies. As a rule patients with secondary yaws require more time to acquire seronegativity than patients with seropositive primary lesions.

b. Immunologic response of individual patients—Some patients with yaws develop more antibodies than do others after the same type of stimulus. The former patients usually require more time to attain seronegativity.

c. Serologic titer—As a rule, patients with high serologic titers at the onset of therapy may require more time to attain seronegativity than those with relatively low titers.

d. Sensitivity of the serologic procedure—The more sensitive the serologic test, the longer it will take to attain seronegativity. When a serologic battery consisting of tests with varying sensitivities is employed, negative reactions may be obtained with the less sensitive tests long before the more sensitive tests can become negative.

e. Type of test—Certain types of tests may remain positive long after other tests have become negative, even though they may be of the same relative range of sensitivity.

It must be pointed out, however, that there are many variations to the above factors, and no set rules can be made to determine or anticipate the length of time required to attain seronegativity.* The serologic response in early yaws is certainly much slower than that observed in early syphilis with similar schedules of therapy. One of the reasons for this difference may be that in syphilis, therapy is usually started within a few weeks after the development of cutaneous manifestations, whereas the yaws patients usually have their infection for many months and even years before receiving therapy. Studies carried out in the pilot group might supply information regarding the slow serologic response.

3. Differentiation between relapse and reinfection. The criteria for indisputable yaws reinfections are quite rigid and, unfortunately, most patients are not observed at sufficiently frequent intervals to satisfy all of the requirements. It is, therefore, often quite difficult to determine whether the patient had developed a new infection or if there has been a relapse of the old infection. From our observations in syphilis, we felt that it was possible to differentiate between relapse and reinfection by carefully conducted quantitative serologic studies at frequent intervals.

Following successful penicillin therapy in patients with early syphilis, there is usually a progressive reduction in serologic titer. In reinfection the patient usually attained and maintained complete seronegativity followed by the development of a dark-field positive, seronegative lesion at a new site. Shortly afterwards such patients developed seropositive reactions with rapidly increasing titers. In treatment failures or relapse there was noted a progressive increase in serologic titer followed in about one month by clinical evidence of a mucocutaneous relapse in the majority of instances. If penicillin treated patients could be subjected to serologic examinations at weekly or monthly intervals, it might be possible to predict a relapse before there is any clinical evidence, by a progressive increase in serologic titer on repeated examinations. Such studies might be carried out in primary control areas in order to determine whether or not it is possible to differentiate between clinical relapse and clinical reinfection by means of serologic examinations.

There are various aspects of yaws that require laboratory investigations to fill in the gaps in the knowledge of this disease.[6, 7] Some of the following

* Impatient doctors are more difficult to hold in check than impatient patients.

studies could be planned and carried out in the control group.

Do the newborn infants of seropositive mothers with yaws have positive blood tests? Are these positive reactions detected more readily with complement-fixation tests than with flocculation tests as has been observed in syphilis? [8] Do these seropositive reactors, due to a passive transfer of antibodies from mother to the fetus in utero, revert to seronegativity within the first three or four months of life as in syphilis? Is there a similar transfer of treponemal immobilizing antibodies from mother to infant and are these also of a transient nature? Do these transient treponemal immobilizing antibodies protect the newborn infant against infections with yaws? Does this passive reaginemia account for the observation that yaws is seldom encountered in children under six months of age even though they are in close contact with actively infected mothers?

Is the luetin skin reaction of any value as a diagnostic procedure? Will a new luetin prepared from tissue-free treponemes be more sensitive and more specific than the older preparations obtained from syphilitic rabbit testes? Is luetin prepared from *T. pertenue* more specific than the luetin prepared from *T. pallidum* in patients with yaws? Is there any correlation between the STS titer, TPI titer and skin test reactions with various types of luetin preparations? Is there any correlation between the development of positive luetin skin reactions and the stage or duration of the yaws infection?

Is it possible to immunize individuals against yaws with a treponemal vaccine? How does the immunity which develops after the naturally acquired compare with the immunity following experimentally induced infection? How does such immunity compare with that produced by specific immunization procedures? Is there any direct correlation between the TPI titer and the degree of immunity?

These and many other questions are awaiting answers, if we are to have a better understanding of yaws.

CONCLUSIONS

Modern serodiagnostic tests for syphilis, employing purified antigens are extremely valuable in pilot groups for determining the ultimate efficacy of mass treatment campaigns against yaws.

With improvement in technic and materials employed, the specificity and sensitivity of the serodiagnostic procedure has been appreciably increased.

There are certain limitations (false-negative and false-positive reactions) inherent in currently employed serologic tests. The public health worker must be aware of these limitations, for otherwise serious errors of omission and commission will be made.

It may not be feasible to perform serologic examinations and serologic follow-ups of patients treated in mass campaigns, but it is of utmost importance that carefully controlled laboratories in pilot groups be set up during the demonstration, survey, and training phase. Diagnostic aids should be employed in these groups in order to predict what may be expected in mass treatment campaigns. Furthermore, much investigative work can be carried out in these pilot or control groups to help fill in many gaps in our knowledge of yaws.

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As a sort of cure for epidemiologic complacency this report upon some rather bizarre clinical manifestations of Salmonella infections is offered to you.

Some Experiences with Enteric Diseases in Korea*†

Perforation of Paratyphoid Ulcers and Salmonella Septicemia Complicating Relapsing Fever

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THE prevalence of epidemic diseases among the large numbers of critically ill, starved, and wounded communist soldiers taken prisoner late in 1950 has been described in a general way by Simmons [1] and Hume.[2] More detailed information concerning the very widespread enteric infections has been reported from the three laboratories where the diseases were the subject of special study.[3-6] The 8217th Mobile Medical Laboratory was the first of the three to investigate the problem. During the first five months of 1951 Shigella and Salmonella infections were at peak incidence. By May of 1951 most of the prisoners had been taught the basic elements of sanitary discipline, the malnourished had been well fed, and the wounded were recovering. These factors combined with many others brought the once serious epidemic under control.

During the period January through May, 1951, bacteriologic sampling carried on among the patients with diarrheal and febrile diseases resulted in the following isolations. A total of 1,106 enteric pathogens were recovered. Two-thirds of these were Shigella, the remainder Salmonella (Table 1). All but

TABLE 1

1,106 Shigella and Salmonella Cultures Isolated in Korea January–May, 1951

Shigella Strains		749
S. dysenteriae	13	
S. flexneri	729	
S. boydii	5	
S. sonnei	2	
Salmonella Strains		357
S. paratyphi	182	
S. schottmuelleri	15	
S. typhimurium	10	
S. kirschfeldii	5	
S. choleraesuis	43	
S. oranienburg	14	
S. bareilly	1	
S. mission	1	
S. montevideo	4	
S. tennessee	2	
S. typhi	41	
S. enteritidis	39	

three of the 749 Shigella strains were obtained by culture of stools or rectal swabs. The three exceptions were encountered in a most remarkable autopsy case of recurrent shigellosis; *Shigella flexneri* III and IV were obtained from the spleen and *S. flexneri* IV from a mesenteric lymph node. This case represents the only instance in which a Shigella organism was recovered elsewhere than in the intestine or its contents. By contrast most of the 357 Salmonella cultures were obtained from

* Presented before the Laboratory Section of the American Public Health Association at the Eightieth Annual Meeting in Cleveland, Ohio, October 23, 1952.

† Studies herein reported were made while author was with 8217th Mobile Medical Laboratory in Pusan, Korea.

various body fluids and tissues. Most of the Shigella strains (97.3 per cent) were Flexner types while the predominating Salmonella types were *S. paratyphi* (51.0 per cent), *S. choleraesuis* (12.0 per cent), *S. typhi* (11.5 per cent), and *S. enteritidis* (11.0 per cent). More detailed analyses of these studies, including the *in vitro* and *in vivo* response of Shigella and Salmonella organisms to sulfadiazine and the newer antibiotics, are presented elsewhere.[3-5]

This presentation is concerned primarily with certain clinical and pathologic features in the group of Salmonella infections. It was often difficult to assess the clinical significance of Salmonella isolated from the feces. Most of such isolations were made from patients with dysentery, many of whom had proved Shigella infections. The recovery of a Salmonella from the stool of a patient showing no clinical evidence of a febrile systemic disease was, in most instances, interpreted as evidence that the patient was a Salmonella carrier. Further support for this assumption was the fact that the Salmonella recovered was almost always a species likely to give rise to a carrier state (viz., *S. typhosa*, *S. paratyphi*, or *S. schottmuelleri*). Salmonella organisms isolated from the blood, urine, spinal or pleural fluids, and various tissues obtained at autopsy or operation were usually associated with clinical manifestations consistent with salmonellosis. Two clinicopathologic aspects of Salmonella infection have been selected for discussion. Each represents a manifestation rarely, if ever, encountered in the United States. One occurred in epidemic proportion while the other was only a potential menace to public health.

ACUTE PERFORATION OF PARATYPHOID ULCERS

One of the more dramatic manifestations of salmonellosis as seen among the prisoners was the acute perforation of an ileal ulcer. At the present writing I know of no previously reported experience that is entirely comparable. There were certain distinct clinical, bacteriologic, and anatomic differences from typhoid ulcers. During a relatively short period of several months surgical exploration was performed on over 200 patients because of signs of peritonitis incident to intestinal perforation.

It is noteworthy that many of these patients were asymptomatic and ambulatory or only mildly ill until the time of perforation. In a series of 98 patients with known duration of illness before perforation, only 31 had been sick for more than six days. Almost one-half (48 patients) denied illness preceding perforation. This is in striking contrast to perforation of a typhoid ulcer, which usually occurs during the second or third week of illness.[7, 8] Another clinical feature which was conspicuous by its absence in this group of patients was massive gastrointestinal hemorrhage. In typhoid fever, hemorrhage is the most feared complication[7, 8]; yet in a series of over 30 autopsies on patients dying of peritonitis or of other manifestations of Salmonella infection, not a single instance of gastrointestinal hemorrhage was encountered.

These intestinal ulcers presented definite bacteriologic and anatomic differences from those due to *S. typhi*.[7-9] Resected segments of intestine were available for study in 132 cases and cultures were taken directly from the ulcers of 109 specimens. Although the yield of only 16 Salmonella isolations from these 109 specimens was disappointing, it is of special interest that the only type recovered consistently was *S. paratyphi* which accounted for 15 of the 16 isolates. The fact that many of these surgical specimens were not available for culture for as long as 36 hours after operation partially accounts for this low incidence of positive results.

In a group of 73 patients it was pos-

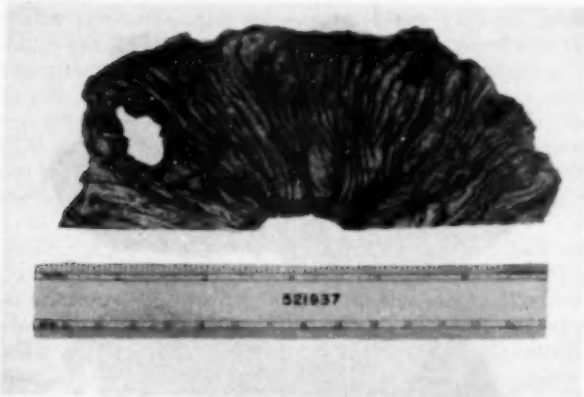

FIGURE 1—Enteritis with multiple (9) ulcers and perforation. Only a third of the resected segment is illustrated but it contains 5 distinct ulcers. All are in a line opposite the line of mesenteric attachment, and are linear or ovoid with their long axes at right angles to the long axis of the intestine. The large defect in the bed of ulcer number one is an artefact made during dissection of the specimen. 406 M.G.L. No. 13008 AFIP Acc. 521937.

sible to obtain blood or stool cultures or both, in addition to the cultures of intestinal ulcers. As a result *S. paratyphi* infection was established in 14. *S. typhosa* was the responsible organism in an additional case. Cultural studies were made in a group of 11 autopsy cases. *S. paratyphi* was recovered in three and *S. typhosa* in one.

A detailed pathologic study of these cases has not yet been completed, but a preliminary investigation established certain characteristic features.[5] In common with typhoid ulcers the perforating paratyphoid ulcers occurred in the lower ileum, 73 per cent within 30 cm. of the ileocecal valve.* Multiple ulcers were more common than single (Figure 1). The distinctive feature of the paratyphoid ulcer was its gross appearance. It was ovoid, usually narrow, often slit-like, lying transversely between folds of mucous membrane on the antimesenteric border of the ileum (Figure 2A). Often the ulcer was more easily located by examining the serosal surface of the gut for evidence of peritoneal reaction (Figure 2B). This was especially true in the examination of formalin-fixed specimens in which the cryptic ulcer was frequently obscured by adjacent edematous mucosal folds (Figure 2C). Some ulcers were shallow, involving only the surface mucosa, while many others penetrated deeply and had caused perforation. Peyer's lymphoid patches usually were not grossly hypertrophied, though the mesenteric lymph nodes were frequently enlarged. This may well have been related to secondary peritonitis rather than to the basic intestinal disease.

A similar, though much smaller, clinical experience was reported from South India by Dunkerley.[10] Half of his 22 cases of perforation occurred in ambulatory (nonhospitalized) patients. Unfortunately, bacteriologic studies were not made and the responsible agent in his cases is not known. Oppenheim and Maynard [11] reported a case of intestinal

* These data were obtained from surgical notes made during exploratory laparotomy.

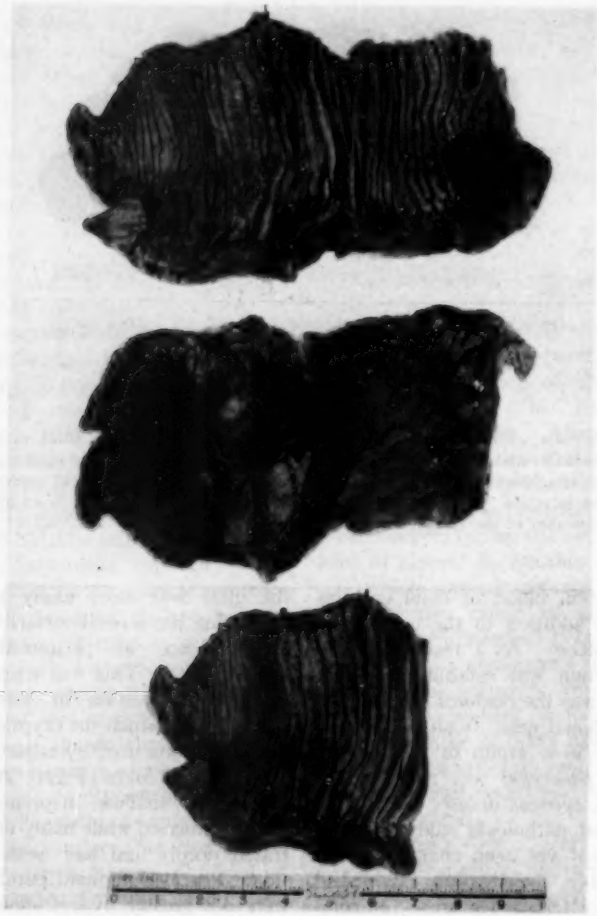

FIGURE 2—Enteritis with ulceration and perforation—(A). The ulcer is located deep within a crypt and is obscured by adjacent edematous mucosal folds. Arrows point to the crypt. (B). The serosal surface corresponding to the area between arrows in A is covered by a firmly adherent layer of fibrinopurulent exudate. (C). With tension applied so as to cause separation of the mucosal folds, the slit-like, cryptic ulcer comes into view. The actual focus of perforation has been closed over by peritoneal reaction illustrated in B. AFIP Acc. 542237.

perforation due to *S. paratyphi* in New York City. In their review of the literature, these authors were unable to find any previously reported cases, though 31 due to *S. schottmuelleri* had been reported by Zeidman and Randall in 1946.[12]

In recapitulation, some features of particular interest in the Korean epidemic of Salmonella infections were: (1) the very large number of cases of *S. paratyphi* infection, a disease which is but rarely encountered in the United States[4]; (2) the occurrence of many

cases of intestinal perforation and the lack of significant bleeding among these patients with paratyphoid fever; (3) the very mild character of the illness until the time of perforation in many instances; and (4) the appearance of the ulcers which on gross examination could be differentiated from those of typhoid fever.

SALMONELLA INFECTION COMPLICATING RELAPSING FEVER

Much less important from the standpoint of numbers of patients involved, but of particular interest to the clinician and epidemiologist, was the unexpected complication of relapsing fever by septicemia due to *S. enteritidis*. Pathologists of the 8217th Mobile Medical Laboratory performed autopsies on two patients proved by blood smear to have had relapsing fever and who had been treated with mapharsen.* In one case death occurred nine hours after a single intravenous injection of 0.060 gm. mapharsen, while in the other, 14 days elapsed between treatment and death. Borrelia could not be demonstrated in smears of blood and spleen obtained at autopsy or in Warthin-Starry-stained, formalin-fixed tissues from these two cases. *S. enteritidis* was recovered from blood, urine, bile, and spleen of the first patient, and from the blood and spleen of the second patient who was demonstrated at autopsy to have an acute bacterial endocarditis. At that time the epidemiologic implications of the simultaneous occurrence of these two infectious diseases were not appreciated.

The occurrence of Salmonella septicemia in relapsing fever was reported in the great European epidemic of 1920–1922. Such complications as abscesses, gangrene, chondritis, osteomyelitis,[14] arthritis, and thrombophlebitis occurred in as high as 13.8 per cent of typhus and 3.4 per cent of relapsing fever cases.[15] It was noted that the course of many cases of relapsing fever was atypical.[16] There was not the same interval between attacks, the temperature returning to normal for only a short time. Mortality rates reached 63 per cent. It was from such cases that Kulescha and Titowa[17] and Iwaschenzoff[18] recovered Salmonellas which were later identified as *S. hirschfeldii* and *S. moscow*.[18] Workers in China have also reported the occurrence of septicemia due to *S. enteritidis* and *S. blegdam* (both very closely related to *S. moscow*) in patients with relapsing and typhus fevers.[19-22] More important because of its great epidemiologic implications was the discovery of these investigators that body lice obtained from their patients harbored *S. enteritidis* as well as Borrelia.[23] This would indicate that Salmonella infection should be added to the list of louse-borne diseases. The prognostic significance of Salmonella infection complicating relapsing fever is well illustrated by Chung and Chang's series of 337 cases of relapsing fever.[20] The mortality among 322 patients without complicating Salmonella infection was 3.4 per cent while 10 of the 15 patients who had a Salmonella bacteremia died. It is important also for therapeutic reasons that clinicians recognize the association of Salmonella and Borrelia infections, for our experience in Korea has shown that chloramphenicol is of value in both.[13, 24]

SUMMARY

During the winter and spring of 1951 an outbreak of enteric diseases occurred among prisoners recently captured by United Nations forces in Korea. Of the bacterial infections bacillary dysentery was most prevalent, but Salmonella infections produced a greater variety of clinical manifestations and more dramatic complications. One of the latter was the occurrence in epidemic propor-

* Previous clinical trial had indicated mapharsen to be superior to penicillin but subsequently chloramphenicol was found to be the drug of choice.[13]

tions of perforation at the site of ulceration of the small bowel. Much less common in our experience, but of particular epidemiologic significance, was the death of two patients who, though treated successfully for relapsing fever with mapharsen, succumbed to a concurrent *S. enteritidis* septicemia.

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For the epidemiologist concerned, prompt indentification of the offending organism will aid an investigation of a food-borne outbreak. Here is presented a method for the isolation and identification of Salmonella and Shigella in a matter of two days or less, instead of the usual three or four.

A Time-Saving Method for the Identification of the Enteric Pathogens*

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FOR many years our laboratory, in common with others, has been concerned with the time involved in methods of isolation and identification of the enteric pathogens. It is the responsibility of a diagnostic laboratory not only to perform accurate work, but also to render its reports in the earliest possible time. If the laboratory diagnosis of a Salmonella infection can be completed from a stool in two days or even less, instead of three or four days, the physician is aided in the management of the case, and the work of the investigating epidemiologist is simplified.

Over the past forty years various media have been devised as screening tools to expedite diagnosis of the enteric pathogens. In 1911, to mention one of the first, Dr. F. F. Russell [1] of the Laboratory of the Army Medical School described a double sugar medium for the isolation of typhoid bacilli, which became widely known as "Russell's double sugar." In 1918 Kligler [2] recommended using double sugar iron agar and this medium subsequently largely replaced Russell's (and Krumwiede's triple sugar) medium in many laboratories as the primary differential medium for enteric pathogens. More recently, in 1945, A. A. Hajna [3] introduced triple sugar iron agar (TSI). It has taken first place in most laboratories in the role of a primary differential medium, as indicated by a survey published by Felsenfeld [4] in 1950.

In spite of the widespread use of the double or the triple sugar medium as a screening procedure, we have always felt that either method is unnecessarily time consuming. When the Kligler's or the triple sugar iron agar is inoculated with a colony from the primary plate, the reaction cannot be read and the definitive procedures carried out until the following day. However, a colony fished into broth can be examined for motility and agglutination within a few hours and the confirmatory carbohydrates then inoculated, thus saving a day in the identification of the pathogen. The Massachusetts Department of Public Health Diagnostic Laboratory has used this method since it began enteric work in 1912. In 1943 this method was combined with fermentation screening by fishing into lactose-sucrose broth.

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Three-hour incubation permits detection of rapid lactose- or sucrose-fermenters and mixed cultures.

In addition to the time element involved, the reactions of the double or triple sugar medium are sometimes misleading. In 1941 Morris and colleagues,[5] for instance, described a *Salmonella typhosa* that gave an acid reaction in the slant as well as the butt of Russell's double sugar, although when tested in a lactose medium alone it was definitely not a lactose-fermenter. We have often observed in this laboratory that cultures which subsequently were proved to be *S. typhosa* gave this misleading reaction on Kligler's slants after 18 hours' incubation. Since any such culture might have been discarded on the basis of the reactions in the double sugar slant, some hazard exists in using it as a differential medium.

Fecal specimens arrive at our laboratory in buffered glycerol-saline solution to which phenol red has been added. The primary plates used are Endo agar, Salmonella-Shigella agar, and bismuth sulfite agar. Tetrathionate broth is employed as an enrichment medium and is subsequently plated on bismuth sulfite agar. In our hands it has proved superior to selenite broth for the isolation of members of the Salmonella group. To our knowledge nothing is known that will hasten the initial growth of the enteric pathogens. Thus, our efforts have been directed to the more rapid identification of the typical or questionable looking colony once it has appeared on the primary plate.

At the American Public Health Association Meeting in 1947 at Atlantic City, Weaver[6] described some quick microtechnics for bacteriological work, and the next year published with Arnold[7] more complete observations. Briefly the authors emphasized that biochemical reactions of bacteriological cultures could be accelerated by employing large inocula in very small quantities of media. It occurred to us that we could improve our screening technics, if we fished the typical or questionable colonies each into only 0.3 ml. of our lactose-sucrose phenol red broth instead of our usual 2.0 ml. amount. We have accordingly adopted this modification, using 10x75 mm. tubes, and incubating in the 37° C. water bath, which Weaver reported effected more rapid growth than the hot air incubator.

When growth has occurred, which is usually from one to three hours, the tubes are read for the presence or absence of acid fermentation. Acid broths are streaked out on Endo plates, in order to isolate, if present, any possible pathogen which might have been obscured by a contaminating acid producer. Unfermented broths are examined for motility in hanging drop preparations. If motility is present, an agglutination test is made by adding to the hanging drop one loopful of polyvalent Salmonella antiserum diluted to 1:25. If motility is not observed, an agglutination test is made with polyvalent Shigella antiserum which includes *Shigella sonnei* and *S. flexneri*. The readings are made in an hour.

The broth cultures agglutinated by polyvalent Salmonella antiserum are inoculated into glucose, lactose, sucrose, sorbitol, salicin, adonitol, rhamnose, and Kligler's iron agar. Loeffler's blood serum medium is streaked to test for liquefaction, and an Endo plate is streaked to test the purity of the culture. We repeat: these confirmatory procedures are done the day of the fishing from the primary plate, saving a day over the use of the conventional double or triple sugar agar. The cultures are incubated for the customary 48 hours, or more, at 34° to 37° C., unless fermentation occurs in 24 hours. An indole test is performed on the lactose-sucrose broth the second day. If the organism is not entirely characteristic of the Salmonella group, additional efforts

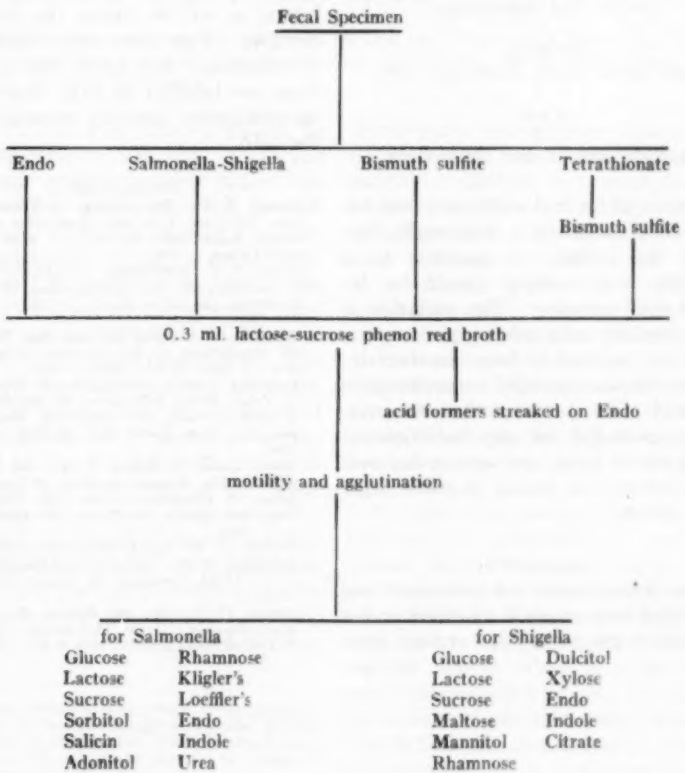
are made to exclude the Proteus and paracolon groups.

The broth cultures agglutinated by polyvalent Shigella antiserum are inoculated into glucose, lactose, sucrose, maltose, mannitol, rhamnose, dulcitol, and xylose. An indole test is done, and specific monovalent agglutination tests are made. Any nonmotile broth culture not agglutinated by the polyvalent Shigella antiserum is inoculated into Kligler's iron agar, and streaked on an Endo plate. The culture is examined the following day for the possible presence of a Shigella other than *S. sonnei* or *S. flexneri*, or even a nonmotile *S. typhosa*.

Still further attempts have been made to accelerate the identification of enteric pathogens, starting in 1948 when work was begun to adapt our procedure as much as possible to microtechnic. The following method was developed. At 9 a.m., 0.3 ml. of phenol red lactose-sucrose broth is inoculated with the suspected colony and a lead acetate paper is inserted. At 11 a.m. motility is observed and an agglutination test set up. At 12 noon the agglutination is read. Then urea and the confirmatory carbohydrate agars which are in 0.3 ml.

CHART 1

Outline of Procedure for Identification of Salmonella and Shigella



amounts are inoculated by means of a capillary pipette. Due to the difficulty encountered in inoculating the 0.3 ml. amount of carbohydrate agar media, 0.3 ml. of broth is now used instead with the exception of glucose which is needed for observing gas production. At 4 p.m. the biochemical reactions are noted, and an indole test is done on the lactose-sucrose broth. The culture, if compatible with Salmonella, is now ready to report. Only seven hours have elapsed since the fishing of the colony.

CHART 2

9 a.m.
↓
Inoculation of broth.
↓
11 a.m.
Motility and Agglutination.
↓
12 Noon
Agglutination results, biochemical tests.
↓
4 p.m.
↓
Reactions read. Report if Salmonella.

This rapid method works very well for the identification of a Salmonella, but when the culture in question is a Shigella, final readings should be delayed until morning. The variation is recommended only when enteric specimens are handled in large numbers by bacteriologists specially experienced in the field. Our routine method, however, is recommended for any bacteriologist doing enteric work, and saves a day over the conventional double or triple sugar agar technic.

SUMMARY

Enteric pathogens can be isolated and identified from stools in two days or less instead of the usual three or four days. The method involves fishing colonies from the primary plates into small lactose-sucrose broth tubes, incubating one to three hours in the 37° C. water bath, performing hanging drop motility and agglutination tests, and inoculating the confirmatory carbohydrates—all on the day of the fishing, thus saving a day over the customary double or triple sugar agar screening technic. Since prompt diagnosis is of real aid to both the clinician and the investigating health officer, and the procedure is reasonably simple for the trained bacteriologist, its use is recommended for laboratories doing diagnostic enteric work.

If the so-called microtechnics are employed in the confirmatory as well as the screening tests, enteric pathogens can frequently be identified the day of the fishing or at the latest the following morning. This more rapid variation is recommended only when enteric specimens are handled in large numbers by bacteriologists specially experienced in the field.

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This author makes the point that the modern hospital should take under its protective wing the near-sick, the sick, and the recently sick; and that the medical, nursing, and social services must be adjusted to the distinctive requirements of each of these three groups. What this new hospital program means to community health organization opens up a new and inviting vista.

Construction for Medical Care*

The Impact of Social Medicine on Hospital Building Programs

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"Hospitals are at best only a necessary evil; a necessity in an intermediate state of civilization.

"I suppose that every one will agree with me that every sick man is better off at home if only he could have the same medical treatment and nursing that he would have in the hospital." Florence Nightingale

HOSPITAL construction should be the concrete reflection of a broad functional program which takes into consideration past experience, present community requirements, and a reasonable anticipation of future needs based on trends in medical care. Since the incident of hospital construction must intersect a temporal period of change it can only approximate its objective. The hands of the clock continue to move. Just as it is true that the research of today is the routine of tomorrow, so true must it be that the space allocations of today are not likely to be the space allocations of tomorrow. One must never lose sight of the fact that a hospital once established, and at considerable expense, is a hostage to fortune given by the founders. Its elements are built-in, for better or for worse, and are at times distressingly irreversible. Subsequent improvisation and rearrangements are relatively difficult and unsatisfactory, however perfect the initial structure may have been. There was a time, almost within our memory, when rigidity of construction and its permanence could have been defended, but social and medical progress have overtaken us and are now challenging our best planning efforts. This permanence of hospital construction is more startling in these days than it has ever been, if only because we are in an era of revolutionary medical ideas.

The governing authorities of the hospital and, in particular, the founding fathers, should do everything in their power to minimize this handicap in the professional life of the architect. Architects are too frequently left to their own unaided devices when they are commissioned to build a hospital for a group which has no clearer conception of its desires than the general one of building a "hospital." It is a rewarding charity,

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in which everyone wants to participate, and often with a minimum of effort. Some consider it a "passport to heaven." The desire to perpetuate such a philanthropic association goes so far, at times, that people seek to control hospitals by legacy—what one philosophic lawyer once referred to as "doing business in heaven." Where architects are compelled to proceed on meager terms of reference they work under an additional handicap, and not the least aspect of their difficulty is the criticism which they invite when maladjustments result from ill-fitting spaces. Furthermore, very few architects are equipped professionally to survey the present and near-future medical requirements of a community with reasonable accuracy, even if they are experienced in the specialized area of hospital design in all of its details. For one thing, the functional field of medical care is too extensive to be encompassed by the architectural technician, if only because it is an intellectual discipline which is in a class by itself and a profession in itself. It is, indeed, also true that not many hospital executives are in possession of the required imagination and gift of prophesy needed for such a study, even if they are thoroughly familiar with administrative technics and with the relation between supply and demand in hospital service. Indeed, few among them can sketch out a new hospital idea to technical advantage. Planning for medical care requires the highest of combined professional skills.

The hospital structure being relatively permanent, unfortunately more permanent than the contemporaneous function which it must serve, and flexibility of arrangement being still a pious architectural hope, it is all the more important to analyze the functional basis for structural planning before anatomic synthesis is attempted. At best, we can only hope for an approximation of structure to function. In its ideal relationships, the hospital should be influenced by the interadjustments of anatomy and physiology in the human economy, though such a relationship is practically unattainable with bricks and mortar replacing flesh and blood. We can only do our best, and that best can be done only when the founding fathers outline their wishes in special as well as in general terms, on the basis of a thorough community study. That such a study should include the quality of the housing in the community will appear obvious as I proceed.

The professional architect, and especially the one who knows the lore of medical care, can help in the preliminary phases of the program. This goes without saying, because he must be on hand to say whether certain functional requirements can be interpreted adequately in terms of structure. It also goes without saying, however, that for his own protection, as well as for the protection of the project, he should not be asked to proceed alone, solely on the basis of extracurricular knowledge which he may have picked up in the course of his readings. The consultant should appear on the scene at the earliest possible date. Just how the functional study should be undertaken, and in what form it can be made most useful to the architect, is a subject with which I have already dealt elsewhere.[1] In this presentation I want to call attention to certain trends in medical care which may serve two basic purposes: (1) to influence those who are in authority in such matters, particularly in hospitals, and (2) to prepare the architect for impending changes in medical care which he will have to take into his calculations when he visualizes the corresponding design, allocates his space, and thinks in terms of relative general and special need.

Before all else, all parties to the new planning will have to bear in mind that hospital walls are placed there only for the purpose of enclosing working spaces

(whether they enclose the entire hospital or any of its component parts) and giving privacy and physical protection to the establishment. These walls are no longer erected for the purpose of containment, in which hospital facilities, functions, and service remain tightly enclosed for the life of the building and for internal consumption only. Fenestration must not only serve the purposes of light, ventilation, and a view of the world beyond from the inside out, it must also permit the passage of anything to the patient from the inside to the outside which can be brought to him satisfactorily. If the hospital is to be the best authority on medical care in any community, which it is in any case, it can no longer limit its facilities to the patients within its walls. It must make these facilities available to patients outside of its walls. It must help to prevent disease either on a cooperative or on an integrated basis and, if it fails to prevent disease, it must devote its energies to the prevention of its spread, the prevention of chronicity, the prevention of complications, sequelae, and relapses, and, what may prove to be most important, the prevention of social dependence which so often results from failure of one kind or another.

We now speak of intramural and extramural hospital services and these should be distributed in accordance with clinical urgency. If the patient needs a hospital bed, it is the best thing for him. If he does not need it, it may very well be the worst thing for him. Clearly there can be no such rigid line of restraint between the two services as a fixed hospital wall. Nor do we build a moat and drawbridge around our hospitals. It is literally true that we are not dealing here with the psychology of discipline which lies back of prison architecture. Medical care must not only be comprehensive and complete—it must, above all, be continuous, and radiate its services on a mobile basis into the community if it is to serve the requirements of a science. Furthermore, medical care must be available to everyone, regardless of his location, urban, suburban, or rural.

The hospital must take under its protective wing (1) the near-sick, (2) the sick, and (3) the recently sick. Medical, nursing, and social organization must be adjusted to the distinctive requirements of each of these groups. This belongs in the realm of function. The hospital architect will have to take such adjustments on the part of hospitals and other medical care agencies into consideration as a basis for intelligent planning. Let me illustrate by specific examples.

As I have indicated before, there is an obligation to relate the factor of distance to the factor of urgency in the provision of medical care, and this relationship is expressed in an inverse ratio—the greater the urgency the less the distance. The hospital can thus be represented schematically on paper as a wheel in which the hub represents the highly concentrated structural elements of diagnosis and therapy. The spokes, or segments, of the wheel represent the immediate activities which draw on the hub for sustenance. These are, for example, such activities as the health center, the diagnostic clinic, the group-practice unit, the outpatient department, the tuberculosis section, the mental section, the section for convalescent care, and the doctors' office building. The rim of the wheel represents the walls which enclose the whole. The Urgency: Distance formula continues to apply in the concentric circles which surround the rim of this wheel as an extramural activity reaching out into the patient's home. If a line were drawn from the center of the hub to the outermost circle at the periphery, and if it were shaded in proportion to urgency, it would be black at the hub and faint at the outermost concentric circle. The dark intramural part of the line invites the close

attention of the architect who must here reduce the expenditure of time and energy to a minimum in order to bring the quickest relief to the comparatively urgent patient here located.

All of this is logical and, in fact, compulsory, in view of the latest developments in medicine and surgery as well as in the social sciences. Changes in structure and in space allocations will be the inevitable result. The criteria for admission to a hospital will depend entirely on clinical rather than on social need, the home being available in adequate housing programs, as well as by subsidy if inadequate. Only those patients will qualify for admission to a hospital who require technical procedures of one kind or another which cannot be applied in the home. Whereas the proportion of beds allocated to medicine and to surgery in the voluntary general hospitals of this country have been about equal until recently, it is reasonable to expect that an extramural home-care program will draw away from the hospital far more medical than surgical patients. Home care will reduce the demand on beds within the hospital and, as a result, it will force an expansion of diagnostic and therapeutic hospital facilities for home use. Provisions for sufficient intramural facilities to serve extramural areas will therefore have to be made. Also, there will be far greater cooperation with the practicing medical profession in this regard, with a consequent increased call on these intramural facilities. The result of all this will be a preponderance of surgical over medical beds within the hospital, a greater emphasis on operating room facilities, expanded laboratories, and expanded outpatient departments of all kinds.

Medical education is already beginning to shift some of its emphasis from the inpatient department to the outpatient department of the hospital, where the student finds a greater wealth of pedagogically useful clinical material, and this tendency too must be taken into account. Moreover, research laboratories will have expanding opportunities in the continuity of intramural and extramural care. These will enable the physician to cling tenaciously to the stubborn cases of prolonged illness, and give him a much stronger scientific foundation for his work than we have thus far seen in the limited time, space and energy at our disposal within hospitals. The same goes for x-ray departments, diagnostic and therapeutic, departments of basal metabolism, cardiography, encephalography, hematology, and the like. The ratio of cubic feet of service space within the hospital will have to be increased, apart from the rapid advances in medical science, because this cubic footage will be required to serve beds outside as well as inside of the hospital. The scientific facilities of the hospital will be central, with beds so situated that they will be located inside or outside of the walls of the hospital, depending on the urgency of the patient's requirements at various times. This will mean an ultimately higher proportion of extramural beds as compared with intramural beds, and greater provision of central intramural facilities to cover both. It will, in the form of tax funds and philanthropic funds, reduce community expense for the cost of medical care, while increasing opportunities for self-help and prepaid health insurance. At the same time it will give to the practicing medical profession, inside and outside of the hospital, its longed-for opportunity for scientific service on all occasions.

In such an integrated setup, the nursing office will preside over a wider area of nursing service, and the same can be said of the social service department. The dietetic department similarly will expand its area of usefulness. All of these adjustments, and more, will be visible to the architect in a practical way all along the line.

The hospital will deal with what has been indecently referred to as its "excess baggage" inexpensively, on an extramural basis, instead of keeping it expensively, on the premises, but valuable "baggage" it will remain for curative, research and educational purposes. We shall see only those patients within hospitals who actually need such beds. All others will continue, under hospital jurisdiction, in their own homes, or in substitutes for their homes. The institutional home substitute, furthermore, will be best located inside of the hospital area for easier supervision and control. We shall doubtless abandon the effort to establish substitutes for hospitals within custodial institutions, because we now know that while we can find or create a substitute for the patient's own home as, for example, in these custodial institutions, there can be no substitute for the modern general hospital. The hospital role is central, major, and its authority is overriding. Wherever a hospital facility is established successfully within a custodial institution, we find that we have added another hospital to the community, and one which can readily manage acute medicine and surgery in the manner of general hospitals elsewhere.

I would, in fact, urge that all future hospitals be geared to the care of the difficult, complicated, and tenacious cases of prolonged illness. Only then will we be sure that such patients will receive the right kind of care, while acutely sick patients will be easily dealt with as part of the day's work, since all facilities for their care will be available. As matters now stand, the care of the patient suffering from prolonged illness, such as it is, is an outgrowth of the work of the so-called acute general hospital. We have reached a point in the history of medical science where we can start from the other end and gear the hospital to the care of the most difficult scientific problems. It goes without saying that the easier problems of acute medicine and surgery are more successfully assimilated in the environment of such a hospital. The criteria for admission to this kind of hospital, which would make no distinctions between "acute," and "chronic," will be based solely on the need for the hospital bed and not on the duration of the illness. Distinctions, from the standpoint of service, between "curable" and "incurable" patients will more readily disappear in such a hospital than in any other type of institution, if we will only remember that hospitals are not established for curable patients only. We can relate acuteness to urgency, but it is not generally appreciated that lessened urgency can be chronic, and to some extent compelling, for varying periods of time. In our planning for medical care, we should never lose sight of the fact that most people take a long time to die. This overwhelming problem in medical care today is still largely neglected.

These are trends for the architect as well as trustee to ponder, because he will be called upon to interpret them on his drawing boards. It is to his interest that the product of his skill be good for as long a time as possible. He will be far more valuable to his employers if he is handed a sound functional basis for his designs, and this is something too for his employer to ponder. The need for cooperative structural planning based on a solid functional program is greater today as we emerge from the prescientific era. The social worker and the physician are joining hands in the beneficent practice of social medicine which has all of these lessons, and more, to teach us. We must be more alert than ever to adjust our sketches to the increased tempo of medical and surgical invention and discovery.

REFERENCE

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Opponents of group medical practice are given to brandishing the bugaboo of assembly line treatment. Related here are the ways the H(ealth) I(nsurance) P(lan) takes to assure individualized medical care for its 400,000 enrollees—the vast majority of whom are convinced they get the best treatment they ever had.

Administrative Methods To Enhance the Quality of Medical Care Under the Health Insurance Plan of Greater New York*

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THE Health Insurance Plan of Greater New York and similar community- or consumer-sponsored plans, because they provide direct service of truly comprehensive scope, have a special obligation to establish professional standards which will assure their subscribers a reasonably high quality of medical care. Among the standards set by HIP and the methods being developed by it to achieve this quality are:

1. *Group Practice*—Medical care in HIP is provided by physicians who work in groups. Group practice has been defined by HIP as follows: "Provision of preventive, diagnostic and curative medical services by family physicians, specialists and other professional and technical staff working as a team in a group center, pooling their knowledge, experience and equipment, as well as income."

The founders of HIP believed that the close professional association of physicians in group practice at adequate medical centers would inevitably result in better medical care than could be provided by physicians working alone. The 30 HIP medical groups have already invested approximately two million dollars in medical centers. Each of the 30 medical groups now either occupies a center or has had its plans for the construction of a center approved by HIP.

Before any medical group is approved by HIP, it must have at least five family physicians as well as specialists in each of the 12 basic specialties of medicine and surgery. All physicians must meet the professional standards established by the HIP Medical Control Board, as will be discussed later. As subscriber enrollment of a group increases, additional physicians must be added. Each family physician in a group has readily available to him and without additional cost to his patients, the services of specialists in all of the clinical fields as

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well as in the laboratory and x-ray departments.

Professional work schedules are arranged in each group for emergency night and weekend calls and vacations in order to enable all participating physicians to have free time for rest, research, and study.

Each of the medical groups is required to have regular clinical staff meetings. HIP has received a modest sum from one of the foundations to pay the cost of tuition for the two-week postgraduate courses given each year by the New York Academy of Medicine.

Since subscribers have their choice of any medical group serving their community and then, within the group chosen, have free choice of any family physician, there is healthy competition between groups to provide the best possible medical care. Each group has learned that its economic future depends on how satisfied its own subscriber-patients are, for subscribers are soon aware of inadequacies in physician attitude, administrative procedure, and in quality of medical service provided by the group.

2. *The Medical Group Centers*—The 30 medical groups have invested over $2,000,000 in medical centers. Each medical group is required to have a center with:

A. Sufficient consulting and examining rooms to provide all ambulatory specialty services without delay in appointments. The services of the family physicians must be similarly available at the center during scheduled hours set aside for such appointments there.

B. A fully equipped clinical laboratory with at least one trained technician under the supervision of an approved pathologist.

C. An x-ray department with at least one trained technician under the supervision of an approved roentgenologist.

D. Equipment for electrocardiography, basal metabolism, physical therapy, etc.

Because of the large geographic areas now covered by most of the medical groups, many family physicians and pediatricians also provide services in offices nearer the homes of their subscriber-patients.

The development of medical group centers where all professional services can be most thoroughly integrated facilitates the provision of improved diagnostic and treatment services. It is our experience that whenever physicians are brought together to work in one center and share modern equipment and facilities, the ease of consultation and the stimulation of professional contact bring about the desire and effort to maintain and improve high levels of performance.

3. *Qualifications of Physicians*—Prior to participation in the work of the medical groups, all physicians must have their training and experience reviewed and approved by an impartial Medical Control Board composed of leading physicians.

The contracts between the Health Insurance Plan and the 30 medical groups require that the groups and their physicians abide by the policies and regulations adopted by the Medical Control Board. It is one of the responsibilities of the Medical Department of HIP to help the medical groups to attain and maintain these standards.

Examples of standards of training and experience adopted by the Medical Control Board are:

A. Chiefs of all of the 12 basic specialties:

1. Certification by the American Board in the respective specialty, or

2. Appointment as attending or associate attending on the staff of a hospital approved by the American Medical Association for resident training in the specialty. (There are somewhat lower standards for associate chiefs and for assistants in each specialty.)

B. Family physicians:

1. Graduation from a medical school approved at the time of graduation by the American Medical Association.

2. An internship for a period of at least one year (or the equivalent during the war years)

in a hospital approved for internship by the American Medical Association.

3. Appointment on the inpatient or outpatient staff of a voluntary or municipal hospital approved by the American Medical Association or an appointment as a clinician in selected services of the New York City Health Department.

4. Members of the Medical Control Board personally interview each applicant regarding training and experience.

C. Consultants in cardiac surgery (example for consultant specialists):

1. Certification by the American Board of Surgery, and

2. Appointment as attending or associate attending physician in cardiac surgery in a hospital having an organized group for the proper performance of such surgery.

The Medical Control Board has also adopted minimum standards for preventive health examinations. It has established requirements that maternity care be provided by obstetricians and that pediatric care, at least for children under the age of one, be provided by pediatricians. The Medical Control Board has advised all of the medical groups that within the next year pediatric care by pediatricians should be provided to all children up to at least six years of age.

4. *Method of Payment for Medical Care*—The fee-for-service method of payment is not used in group practice under HIP. Instead, each of the 30 medical groups at present is paid approximately $24.00 per year for each person enrolled in a group. For this amount the medical groups agree to provide all medical care needed by their enrollees. After each group has paid its overhead and administrative costs, the income remaining is distributed to physicians on the basis of such factors as: number of hours spent in the work of the group, number of years of postgraduate training, and length of time served in the group. Each medical group has its own formula for disbursing its distributable income to its physicians. The capitation basis of payment (so much per person per year) for medical care is a most important principle, relating fundamentally to the quality of medical care provided. This method of payment avoids the temptation under fee-for-service to provide unnecessary visits or to perform unnecessary operations because of the additional income thus secured. There can be no fee splitting under the capitation method of payment. The security of an assured income, the relief from discussing fees and the sending and collecting of medical bills, and the knowledge that costs will not deter patient cooperation permit HIP physicians to be concerned with the provision of good medical care.

Participating physicians are not permitted to make extra charges or accept payments from HIP patients, irrespective of the family's income or of the type of services provided, except that they may charge $2 for a home call requested and made after 10 p.m. and before 7 a.m. Many of the groups do not make this charge.

5. *Subscriber Relations*—

A. When subscribers enroll in HIP, every effort is made to acquaint them fully with the services available and how to use them to maximum advantage. They are encouraged to discuss any dissatisfaction with medical services or administration with their medical group directors, and to offer suggestions for improvement of the Plan. Complaints and suggestions for improvement are discussed by the medical group directors with all of their physicians and staff at monthly meetings.

B. HIP maintains a Subscriber Service Division at its headquarters where written and telephoned inquiries, complaints from individuals, and expressions of praise and appreciation are received. Complaints are given careful individual attention and are discussed by the HIP medical staff with the appropriate medical group directors. Copies of all complaints received by HIP are sent to the appropriate medical groups and written replies are required. The medical administrative staff of HIP may find it necessary to interview the individuals concerned and to make recommendations for appropriate handling of the complaints. Reviews of all complaints are made by HIP and are submitted to the groups

at regular intervals. The average number of complaints is two per month per 10,000 enrollees. This is approximately one complaint for every 2,000 medical services provided.

C. With the guidance of HIP's Health Education staff, medical groups are now holding periodic night meetings with their subscribers for the purpose of discussing problems related to health and medical group care of interest to subscribers. These meetings have dealt with such subjects as infant care, how a medical group functions, mental health, appointment systems, laboratory and other diagnostic procedures, health problems of elderly people, doctor-patient relationships, etc.

In all instances the fundamental aim is to bring the physicians in a group and its subscribers closer together. The medical director and his administrative staff are always present to lead the discussion and to answer questions. Many physicians were apprehensive about meeting with large numbers of subscribers, fearful that they would be overwhelmed by unwarranted and intemperate criticism. The results have been quite the contrary.

Complaints are solicited and aired at these meetings. As a result, the group directors have promised that immediate steps would be taken to bring about the necessary changes. Many valuable suggestions for facilitating the work of the group in the interest of subscribers have been made at these meetings to the advantage of all concerned.

The group physicians have learned that properly conducted meetings provide an excellent opportunity to discuss with their subscribers many practical and difficult problems in the provision of good medical care. For the subscribers a feeling of sharing with their physicians in the success of their group has been achieved.

A relatively new but quite promising technic for soliciting subscriber evaluation and comment has been tried by one medical group. This is a self-mailer questionnaire. An analysis of the returns is then discussed with the entire medical staff of the group.

The methods described permit all subscribers to have a direct part in influencing the quality of medical care. A favorable attitude of subscribers toward their medical groups or toward their individual physicians is essential for the success of any medical group, for dissatisfied subscribers readily transfer to another group or to another physician within a group.

6. *Studies of the Quality of Medical Care*—In 1949 HIP employed Henry Makover, M.D., with the approval of all of the medical groups, to evaluate the quality of medical care in HIP. He reported on the methodology of this study at the APHA meeting of 1950. The facets of medical care selected for this study included:

a. The adequacy of recorded medical information.

b. Diagnosis, treatment, and follow-up of selected conditions.

c. The practice of preventive medicine.

d. The extent to which judgment and skill were employed in meeting selected medical situations.

e. The use of certain laboratory procedures.

Upon completion of this study, group medical directors and their staff physicians met individually with the Medical Department staff of HIP and Dr. Makover to review the findings and to agree upon measures indicated to bring about necessary improvements.

During the past year, the medical staff of HIP has reviewed the case histories of adults who received physical examinations to determine the extent to which the standards established by the Medical Control Board were being met. The immunization and vaccination of infants during the first year of life will also be studied as well as other preventive, diagnostic, and treatment procedures to determine how well reasonably high standards of medical care are being maintained.

Statistical studies have been made to learn about the variations in the utilization of each type of professional service. A recent survey was made of the number of prenatal and postpartum visits to all maternity patients in one of the groups. Analyses have been made of the incidence of certain operative procedures in the various groups. These statistical studies, used in consultation with the medical groups, have proved very valuable. The purpose, of course,

is to detect possible weaknesses in the provision of medical care and to bring about improvement as rapidly as possible.

The six points I have discussed briefly are among the more important administrative methods used by HIP during its first five years to set standards and to promote good medical care for its 400,000 enrollees. The vast majority of the subscribers are convinced that they are receiving the best medical care they have ever had. However, the full potentialities of group practice have not been achieved and we must therefore be continually seeking the ways and means of improving the quality of our medical care.

Home Accident Prevention Conference

The Subcommittee on Accident Prevention of the American Public Health Association, in cooperation with the U. S. Public Health Service, the National Safety Council, and the School of Public Health of the University of Michigan, recently sponsored the first national conference on home accident prevention for public health workers. Held at Ann Arbor, Mich., January 20–22, almost 100 participants joined in the working sessions. Representatives of industry, insurance, education, and other fields collaborated with health authorities from federal, state, and local agencies in putting together data now available on the prevention of home injury and in assessing present knowledge and charting a course for the future.

Out of the four sections of the conference came:

1. Recognition of the importance of home accident prevention as a responsibility of health departments;
2. Realization that research and epidemiology must continue at an accelerated pace while health agencies apply methods and information now available and vigorously attempt to expand the program to include more states and communities;
3. Awareness that the problem requires a unified community approach, with the health department assuming the role of coordinator;
4. The decision to publish a "Proceedings" which will fill the long-felt need for a comprehensive but concise source of background material for those initiating programs, as well as a review for those who have already begun operations in the field of home accident prevention.

All present at the conference agreed on the need for further meetings for a continuing and coordinated attack on what is one of today's leading public health problems. This kind of participation by the Subcommittee on Accident Prevention is in line with the basic objective of the parent Committee on Administrative Practice, which makes available to public health workers analyses of information regarding current public health practices, in order to aid in the derivation of standards of organization and achievement.

Though acceptable standards of nursing home management are necessary, it is probable that no two of them have adopted the same program. What is recounted here is the way Illinois has gone about building into a productive team the various agencies and professions involved in carrying out its particular program.

Public Health Nurse's Role in Nursing Home Supervision*

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"THE steady triumph during the past century over infectious disease has made possible that lengthening of useful life which is one measure of a healthy people," says one recent writer.[1] The very fact that in 1950 there were twelve and one-quarter million of us in the United States 65 years old and over, gives one a feeling that comfortable ways must be found to care for the 6 per cent of those who are not living in their own homes or with relatives.[2] That approximates two million living in hospitals, institutions, hotels, and large rooming houses—a rather startling figure when one thinks of all the personal care required at various times by this age group which will not be receiving care from relatives. There are approximately 19,000 beds in 560 licensed and approved homes for nursing and sheltered care in Illinois alone.[3]

In one way Congress recognized public responsibility in the care of ill and infirm people by an amendment to the Social Security Act which becomes effective July 1, 1953. The amendment directs that categorical public assistance be withheld from states not having a functioning standard setting and regulatory program on a state-wide basis. The amendment requires the individual states to submit an acceptable plan to the Federal Bureau of Public Assistance, showing exhibits of standard setting regulations for hospitals and related institutions on a state-wide basis. With the large categorical grants available to the various states for aid to the blind, old age assistance, and prolonged disability, it would seem that states that do not have acceptable standards for nursing, convalescent, sheltered care homes will take steps to arrive at some in the near future. It seems wise that this amendment did not refer to homes caring for public assistance recipients but to all hospitals and related institutions in a state.

The comments in this paper will be limited to health department activities in relation to the regulatory and supervisory program in nursing, convalescent, and congregate homes for sheltered care of older people. This paper is not concerned with hospitals in the usual meaning of the word, nor with sanatoriums for tuberculosis, nor with the care and treatment of mental disease.

What is the situation in the states in

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relation to nursing homes at present, and in which state agency is the responsibility placed for standard setting? Forty-six states have some statutory or regulatory provision for state supervision. Two states, Arizona and Florida,[4] have none as far as is known at present. Twenty-six states have placed the responsibility with the Department of Public Health; 10 states with the Welfare Department; one state, Missouri, with the Health Division of the Department of Health and Welfare. Six states have divided the responsibility by placing certain facilities under health and others under welfare, notably Connecticut, California, Maine, Oklahoma, Virginia, and Wisconsin. Washington and New Jersey place the responsibility with other agencies of state government.[5] One can see that nurses and public health nurses will increasingly be involved in supervision of nursing homes.

The Illinois Nursing Home Act became effective July, 1945, and was amended in 1951. The minimum standards, rules and regulations, set up under the Act were revised in 1947 and 1952. As one reads the three versions, one cannot help but note the increasing emphasis on the resident and what is happening to him as being of prime concern in the regulatory program.

Originally the director of the Department of Public Health assigned the responsibility for administering the licensing act to the Division of Sanitary Engineering. The responsibility remained there until in 1949 when the consultant staff and licensing program were transferred to the Bureau of Hospitals. Regional and county health department nurses, engineers, and nutritionists make most of the visits to the homes, do the direct counseling in the home situation, and make recommendations for improvements. The small staff of consultants in the bureau act as resource persons and as consultants. That plan has not changed since 1945 as it is the general plan of all health department activities in Illinois.

The amendment to the Act gave the department the mandate to define management, to outline equipment required, and to inquire into financial responsibility. The amendment also outlined the membership and duties of an advisory council to the Department of Public Health.

The changes made it desirable to revise the minimum standards, rules, and regulations. Consultants of the bureau prepared a rough draft of proposed revised standards, copies of which were sent to the 30 members of the Standards Committee of the Illinois Association of Nursing Homes. They were sent to some homes for the aged, especially to administrators and board members active in a seminar group of homes for the aged having about 75 members. Public Aid Commission social workers and every full-time health department in Illinois were especially urged to make suggestions for improvements. The manuscript looked so tentative and rough that no one seemed to have any hesitancy in making suggestions, criticisms, and telling the bureau staff where the standards needed change. The 118 letters or pages of suggestions that came in were most helpful. The nurses in local and regional health departments sent thoughtful nursing comments to help in developing informative standards. As a result the Illinois standards were rewritten for submission to the Advisory Council, which revised them further. Much of the finished revision is probably good advice and should be in a manual but it is not difficult to differentiate between "musts" and suggestions.

This proved to be a slow but effective way to revise standards. Acceptance, both by the homes and the health department team, has been quite encouraging. Future changes in standards should follow a similar pattern of devel-

opment. From the content of visits reported and from the recommendations made recently, a great many homes for the first time have given a thorough reading to the standards under which they have been operating. In some cases, the same has been true of health departments. A number of health departments used the proposed draft as a nucleus for nurses' staff meetings and discussion of the needs of old people and chronic invalids.

A meeting of supervising nurses and nutritionists was held in the fall of 1951 to discuss nursing and social problems in the supervision of nursing homes. One result is that there seems to be more understanding of the aims of the placements made by the social workers from both public assistance and mental hospital extramural placement programs. Discussion, lecture, panel, and sociodrama were used to help nurses learn more ways to work more easily with home owners and superintendents. Each participant received a "proposed revision" at the meeting. The local staff nurse participation in the development of the revised standards followed.

Perhaps too much time has been spent in describing the revision but by this time one begins to see that to reach the objective of licensing, the bureau uses learning and teaching technics. The objective is to improve the care of residents by helping each home reach its highest possible standard of care in a safe, comfortable environment where individual dignity is respected as every one's right in a free society. The legal responsibility has to do with maintaining care at levels set in the minimum standards. More and more homes are striving to exceed the basic requirements.

The nursing homes, the patients, and the general public in Illinois are fortunate in that there has been built up through the years a sound understanding, respect, and confidence between the Bureau of Hospitals, the Health Department's nursing staff and the Illinois Public Aid Commission social workers. IPAC is the public assistance agency in Illinois. The good relationships and the mutual sharing of information has made possible a more positive program than would be possible were each agency working alone and completely separate.

The IPAC is careful not to place residents who require more services than board, room, and laundry in an unlicensed home. If the family insists on doing so, the IPAC refuses to pay for more care than board and room. As a result, the home starts working to secure a license and usually refuses to care for an infirm person for that amount of money. The department sends the home information about becoming licensed together with an application blank.

When a license is issued, denied, revoked, renewal postponed, or otherwise disposed of, the IPAC knows it as soon as the local health department. Three copies are made of all correspondence to a home for the IPAC central, regional, and county offices.

The public health nurse never discusses IPAC rates for care with a home owner or superintendent. The nurse's response to queries and complaints is always the same, "Nursing homes are reimbursed for care according to the kinds of care a resident *needs* and *gets* within the limits of the IPAC appropriation."

The social worker visitor from IPAC, who visits her clients in the homes more often than public health nurses visit the home, is able to give the health department clues that indicate a visit is desirable to the home. This technic is not abused and the public health nurse responds quickly when such a report reaches her. The local visitor and public health nurse frequently have a conference about a home problem in one of the agency offices.

Public health nurse members of the health team are constantly interpreting

the different roles of the Health Department in a licensing program and the Illinois Public Aid Commission in its assistance program.

It would seem advisable in every state to strive to develop cooperative policies and mutual trust in a licensing or regulatory program.

It is with the group that wishes to provide superior services and the potential home, not yet more than a dream in a citizen's mind, that the nurse has her most satisfying experiences in helping the ones concerned think through their problems. When the nurse has an interview with a proposed home operator, the stage has already been set and both the nurse and the operator bring something in the way of preparation to the interview.

When a person first contacts the bureau about starting a home, a preliminary application is sent to her along with the minimum standards and helpful pamphlets about nursing-home operation. When the preliminary application is returned signifying that the person is proceeding, the information on the form is studied. References are queried. These consist of personal medical reference, business, character, financial, and nursing ability. The reference replies come back promptly and most of them have proved to be extremely frank and helpful to the bureau. If all references seem to indicate that the proposition is sound, and the person is of suitable health, experience, education, and age, the public health nurse in the local area will be asked to visit. The nurse will have received copies of the reference information and a copy of the application. The applicant will have had ample time to study the materials sent to her so that she is more likely to be ready to use the nurse's time wisely. This preparation has saved needless nursing visits to people who decide not to proceed with their proposition, and the applicant is somewhat familiar with the regulations. The nurse answers questions and makes a tentative decision as to whether the person should be encouraged.

Discussions of staff, equipment, and program of the proposed home are part of the content of this visit. The nurse makes nursing recommendations and sends the bureau an evaluation. The other members of the health team (engineer or sanitarian and nutritionist) and the fire marshal are requested to visit the premises and make recommendations. When reports are received in the bureau, a letter verifying the verbal recommendations and enclosing the final application is sent to the applicant. When the final application is returned and after the improvements are reported to have been met, members of the health department revisit to help with further problems that may have arisen and to check for compliance. The license is issued when the local health department informs the bureau that requirements have been met and the home is satisfactory for licensure.

Many public health nurses say that one very satisfying factor in nursing-home supervision is the close working relationships developed with sanitarians, public health engineers, and nutritionists in working together to help in every home problem. The nurse and engineer are both concerned about space, living areas, lighting, safety rails, bedpan washers, etc. The nutritionist and engineer are concerned with food and its safe handling. The healthy overlapping of their visit content is beneficial to the whole situation. Of course, one can think of a multitude of other areas where the team presents a united front. The medical officer is the center and the adviser to the whole team. Nurses are looking to the day when busy medical officers can find time to visit in more homes so they will be more familiar with problems. In one area, where medical officers have been helpful is in using

their relationships with county supervisors and medical societies in securing improved medical policy plans in homes.

A responsibility that has been assumed by public health nurses has been that of promoting the development of community nursing homes under nonprofit auspices. The meetings with committees and subcommittees seem valuable.

If association with friends and relatives and keeping up old ties are as important to an invalid as psychologists believe, then it is important that resources be developed near the family center. In the past two years promotion of this type facility has been encouraging. Four are now in active operation and two are under construction. This may very well be a social work function but the department has no social worker and there is a job to be done. In the not too distant future a study can be made to discover if this type of service facility near home is sufficiently valuable to warrant the increased administrative expense of operating several small homes rather than one large one. One home which is under the auspices of three adjacent congregations is already working on expansion plans. The homes all have a connection with a hospital and sound medical care arrangements as well as an open admission policy, that is, not limited to one sect or sex. There is a registered professional nurse in charge of nursing service. In two homes a sharing arrangement to provide social case work intake placement and service to residents is a definite part of the program. Efforts have been made to assure that the capacity will not be less than 25; however, some groups that hope to expand have opened smaller homes.

In 1949 and 1950 the bureau helped homes in Illinois to organize an association. Meetings were called in all parts of the state to discuss medical and nursing record forms. At these local meetings individuals expressed interest in more educational meetings and in an association of homes. Later meetings were scheduled in four regional cities in the state to elect delegates to draft a proposed constitution, plan for an association, and to submit a slate of officers to be presented at a state-wide constitutional convention. The association was formed on March 15, 1950. In the following few months four district associations were formed. The Chicago area had had an association of homes for several years. That association had a superb Code of Ethics which was fortunate for the newborn state association. Consequently, as a requirement of membership, the constitution specified that all charter members signing the by-laws signified their intent to adhere to this Code of Ethics. Each home that is a member promises to adhere to the Code of Ethics and is a licensed home.

Public health nurses have worked closely with the Illinois Association of Nursing Homes and its districts in acting as discussion leaders, as resource persons at meetings, as speakers on nursing care, and in helping the program committee find speakers. The standards committee of the association is presently developing a nursing-home procedure and management manual. Public health nurses are helping in all nursing and management sections of this manual. Much of this work is in the district so that regional and county health departments are carrying out these consultant functions to committees. Earlier this month a chairman of a committee of the ISNA Public Health Nurse Section asked to be excused from being present at the annual business meeting of the section where she is very active. Her valid reason was that she had promised the district association of nursing homes, meeting where her county health department is located, to be a speaker and a discussion leader at their quarterly meeting on the same day.

Since the Illinois Association of Nursing Homes constitutional convention, the health department has not taken any responsibility for the association except when asked. It is good to report that there are almost more requests for guidance than can be given. Another way the public health nurse has helped the nursing home through the association is in developing closer ties between homes and other community health and welfare agencies.

For example, in one community the council of social agencies has a subcommittee of home owners and other citizens, including the director of the Visiting Nurse Association and the city health officer, working together to develop a community chest sponsored plan to have a group work consultant help the homes develop group activity programs.

The education committee of the Illinois Association of Nursing Homes and the Department of Public Health have worked with the Division of University Extension of the University of Illinois in holding semiannual Institutes on Business Management for Nursing Homes. The fourth institute was held November 11–14, 1952. One hundred and ten home owners and superintendents were registered. They were from Illinois, Connecticut, Delaware, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia, Washington, and West Virginia. This is the first one to which people from other states were invited. Out-of-state registration would seem to indicate the need for public health nurses in other parts of the country to work with medical officers, nursing home associations, welfare departments, and local colleges to develop some nearby educational resources.

Loyola University, Department of Nursing, has had two institutes on nursing care of older people. Today the work conference for registered nurses in charge of nursing service in homes for the aged and in nursing homes begins at University College, University of Chicago. Preliminary registration indicates that some 43 are in attendance. This conference was made possible by a grant from the W. K. Kellogg Foundation. Nursing homes were included in the survey of nursing needs and resources in Illinois in 1950. The work conference is one of the results of the work that public health nurses did in making that survey. Also the requests for the conference came to the Department of Public Health from registered nurses operating or managing homes who had participated in the survey.

Our information is far from complete on small group conference series arranged by public health nurses for home owners and superintendents locally. Conferences on such subjects as lifting and handling patients, nutrition, food handling, meal planning, selecting activities for residents, fire prevention, policies in nursing administration, saving food dollars, replacement of equipment, changes in individuals suffering from heart disease, nursing care records, complete care of the patient, care of the dying, admission policies—seem to be most common. The leaders and speakers come from the local community hospitals and agencies. These topics were picked at random from groups in Rice County, Minn., Milwaukee, Wis.; and the Adams County, Ill., Health Department series.

Good nursing home visits by public health nurses are time consuming. One nurse says, "A good visit takes all afternoon!" Group conferences seem a good way to save public health nursing time, and by being arranged far in advance may not be occurring at such an inopportune time as a visit without an appointment to a home.

As workers in public health departments, public health nurses have

believed in the worth of every individual and in the ability of every individual to carry through his own plan for his health improvement and that of his family. The young nurse early in her career learned that unasked for or unwelcome advice did not help the person solve his problem. The "telling" nurse so often did not help the family grow in ability to solve its problems. So it is in working with owners, superintendents and board of directors. They have to believe that the requirement is good for the home business and to want to make improvements. My mother used to tell us an old saying which I think was from Thomas B. Macaulay. It went something like this, "The measure of a man's real character is what he would do if he knew he would never be found out." I believe the general public checks on a home more than any agency will ever have staff or budget to do. Let us help home owners, superintendents, and boards reach their highest possible level of operation. Careful prelicensure counseling and decision as to desirability of applicant's plan, careful counseling, and group educational measures can make it unnecessary to use authority to revoke a license. That is the goal. Remember always that one is a public health nurse and must not allow oneself to be led into inspectional habits.

The public health nurse helps the home see its responsibility for good personal health practices on the part of residents and staff. She works with the home to develop sound medical, nursing, and personal care policies and the equipment and staff to carry them out. She helps management understand residents' attitudes and feelings toward their illnesses. She teaches nurses to be alert in observation of residents' reactions to medically prescribed treatment and management, and to record her observations for medical consideration. The nurse alerts the home to available community health and welfare resources and how to use them. An example of this is her work in helping the home plan to use the mobile x-ray unit when it is in the county. This may involve Red Cross volunteer motor corps, the Tuberculosis Association, and the State Health Department's Division of Preventive Medicine, as well as to win acceptance of the screening plan by residents. She has to be a well informed nurse, current in her knowledge and skills to teach rehabilitation technics.

Much study and research are necessary in this rapidly expanding field. Under the type of public health nursing supervision described, nursing home superintendents and owners will be our proud partners in studies. They are already in some areas.

In two areas in our state, time studies of nursing care procedures have been done in sufficient cases and homes to seem to present some valid conclusions related to ratio of professional nursing to ancillary service needed. Further research in medical and nursing management of the confused senile is high on the list of needed study. The job of management itself requires study. From questions that people take home from the management institutes there are many management problems to be explored. Studies in rehabilitation of oldsters and in developing technics of social living that retard emotional and physical regression are needed so much. Perhaps many of them will be under way in the next few years if public health nurses work with all the other health and social disciplines and the homes to make it happen.

A friend of mine was interviewed on his ninety-third birthday by a brash young reporter. The company paper had felt the impact of the recent furor about old age and decided to show photographs and biographies of its retired employees on their birthdays. The previous policy had been to give that kind of a build-up in obituaries. Early

in the interview the reporter asked Mr. Charles about the advantages he had found in living so long. Without giving my friend time to think of a salty reply, he again impatiently asked, "Name one, just one, advantage!" Mr. Charles then replied, "I like life and if I weren't ninety-three, I'd be dead!" Let us use our skills in public health nursing to help more people like life!

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The Journal 25 Years Ago

VICTIMS OF YELLOW FEVER

An editorial, "The Cause of Yellow Fever," in the *Journal* of April, 1928, p. 403, has for its first and last paragraphs the following:

"Another chapter concerning yellow fever has been written, and the etiology of the disease has at last been cleared of some of its accumulated rubbish. The work of Carlos Finlay and of the Commission under Walter Reed, concerning the agency of the *Aedes aegypti* as the carrier, has been abundantly confirmed, and it seems equally certain that the germ of the disease belongs to the class of filterable viruses, which will pass through the V and N grades of Berkefeld filters. This work has been done under the auspices of the International Health Division of the Rockefeller Foundation on the Gold Coast of West Africa."

"Once again intensive investigation has revealed the secrets of one of the most puzzling of all diseases, but another life has been given to this discovery. Dr. Adrian Stokes, head of the Rockefeller Commission, fell a victim to yellow fever, contracted apparently from an infective monkey. One other name must be added to the roll of those heroes who have sacrificed their lives for the good of their fellowmen in the course of medical progress."

In the June issue, p. 770, is a news item which reads in part:

"Dr. Hideyo Noguchi, world-famed scientist, who has been with the Rockefeller Institute for Medical Research in New York since the founding of its laboratories in 1904, died at Accra, West Africa, May 21. He was a victim of yellow fever. He had been loaned to the Rockefeller Foundation by the Institute to go to Africa to study the relation between South American and African yellow fever."

These two deaths, it will be remembered, came a quarter of a century later than that of Walter Reed who gave his life in the quest for the cause of yellow fever in 1902.

"Let us remember that the chances are weighted in favor of our having a long-term illness. We are—all of us—potential chronics, so let us do to others as we would be done by." With this barbed reminder public health nurses, and other health workers too, are urged to interest themselves in the improvement of nursing home management—by no means a simple task.

Nursing Homes—Are They Homes? Is There Nursing?*

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OF late years the term "nursing home" has been used so indiscriminately that it has almost ceased to have any specific meaning. In reality, the term is an all inclusive one, embracing a variety of institutions. Committees who have endeavored to set standards for these homes have found that the formulation of a definition was no simple task, because it seems that anyone taking two, three or more aged, chronically ill, or disabled persons into his home has called it either a nursing home or some variation of the term, and the variety of names is large, including rest home, boarding home, convalescent home, home for retired ladies, or homes for incurables, to name just a few. The situation is further confused because the name of the home does not necessarily indicate the kind of service it offers. For instance, a home for retired ladies may have women who are chronically ill or disabled, and a convalescent home may accept incurable cases. In short, the term nursing home has become so broad in its scope that it has almost ceased to have any particular meaning. For the sake of clarification, I will assume in this discussion that any home which, for a fee, accepts three or more unrelated persons, agreeing to give them care, is more than a boarding house. Such a home will, if necessary, give nursing care and will be a home substitute. Hence a nursing home.

"How does this concern me? What can I do?" My answer to this is quite simple—we as nurses can do a lot, both as individuals and as an organization. In the past, we, too, have been critical of these homes, but have we always been fair? Let us remember that at the time most of these homes came into being there was no one to assist their operators, to give them counseling and guidance. Only within recent years have departments of health been empowered to license these homes and to formulate standards for them. Even now, there are no courses of study where the administrator of a nursing home can learn how to maintain a good and a successful establishment. True, we are beginning to have institutes and conferences for operators who are already in business, and the demand for more such institutes is increasing—a testimony to their success. But such a program is rather like locking the barn door after the horse has

* Presented before the Public Health Nursing Section of the American Public Health Association at the Eightieth Annual Meeting in Cleveland, Ohio, October 22, 1952.

been stolen. Our educational efforts are coming after the operators are in business, so instead of bemoaning the situation, it is up to us to render assistance. Nurses can render invaluable assistance by serving on committees that are making plans for the future; by assisting in the institutes and conferences now being conducted; by devoting some time on the programs of their professional organizations to the consideration of the problems that are inherent in operating a nursing home, and by encouraging the establishment of courses of study which will help to prepare people for this important phase of medical and nursing care.

Since World War II the increase in the number of these nursing homes has been phenomenal. They have opened by the hundreds until now there are some 14,000 such homes throughout the country. Many of these homes are good, but some are not, and it is these poor ones which have caused criticism and concern until the general public has become apprehensive of using nursing homes for fear their loved ones will be neglected. However, the nursing home fulfills a real need. There are several reasons why they have been increasing so rapidly. For one thing it is common knowledge that we as a nation are growing older; the percentage of people over age 65 is increasing each year, and this is the age group most commonly found in nursing homes. As energy and vitality diminish, these older people need a protective environment or a home substitute, and the nursing home has developed to meet their demands. Second, there are more chronically ill people, many of whom are older people, since the incidence of chronic illness is higher in the later years of life. However, not all are aged, as for instance the cases of multiple sclerosis. Third, our general hospitals are crowded with the acutely ill, surgical or maternity cases. Even when the chronically ill can afford to pay for care in a general hospital, they are not welcome because the bed is needed for other cases. The total number of hospital beds available has not increased to keep pace with the demands, often available beds remain empty because of the shortage of personnel. Fourth, most families are living in smaller units, that is, houses and apartments are smaller. As a result, there is no place for the aged or chronically ill person. And, last, in these days of rising costs, many times most of the adult members of a family are employed, so that there is no one remaining at home to give care to the patient. Many of these conditions have developed since World War II. Prior to that time, during the depression years, there usually was some adult at home to care for the patient.

Unfortunately, in many instances these nursing homes have developed without the benefit of any guidance or counseling. The owner or operator may or may not be a registered nurse. All too often the nurses who have entered this field are nurses who were not particularly successful in other branches of nursing. Many are older women with little business experience and no special training. Most often, at least in our community, they are untrained practical nurses or former attendants. In fact, few if any of these people had any previous experience in operating any type of institution prior to undertaking the management of a nursing home. As a result, most of them have been forced to learn by the trial and error method. In many instances the operator of the home has not realized until she was actually in business that most older people have some chronic illness which incapacitates them to a greater or lesser degree. Often the operators opened homes expecting to give just custodial care, only to find that they needed to hire nurses. This necessitated a revamping of personnel and fee scale. They

had not recognized that if older people are capable of maintaining themselves independently they do not seek the protective environment of a nursing home. When faced with these complications some of the operators endeavored to reduce costs by accepting more patients and crowding and neglect resulted. It was this kind of a situation that led to so much criticism that the public has become concerned. In view of this background of inexperience and lack of preparation of the operators, it is surprising that the nursing homes are as good as they are.

PROBLEMS ASSOCIATED WITH NURSING HOMES

Now, at long last, we in the health field are beginning to recognize that the situation is not good and we are beginning to face our responsibilities. We are beginning to ask questions and to seek answers. The operators of the nursing homes have themselves realized their need for guidance and assistance and, besides looking to us for help, are organizing into associations among themselves for mutual help. These organizations are at the local, state, and national level. They recognize the need for standards, a code of ethics, and personnel policies, and they look to the nurses in their community for guidance and assistance in developing these standards. There seems to be general agreement that because the need for an adequate number of good nursing homes is a community problem there is need for a community plan rather than the Topsy-like growth of the past. But as soon as such planning is started, many problems arise. The first question usually asked is, should there be any attempt to classify the various nursing homes and if so, how? Should a nursing home take only sick people, and the home giving custodial care be a boarding house? This immediately poses many problems; for instance, when is a person sick? We do know that the average older person does, at times, need some nursing care; it varies from time to time. An attempt to transfer these people back and forth between a nursing home and a boarding house would be difficult for all concerned and would be especially confusing to many older people who find adjustments difficult. Should an attempt be made to separate the age groups, having the older people in one home and the younger in another? We know that many younger people are depressed when placed in a home where the average age is 75 years, and on the other hand, the older people prefer to be among their own age group where they can reminisce together. They say the younger people get on their nerves.

Then we ask ourselves, should our classification be based on the amount of nursing care required? If all the patients are bed patients it may be easier to determine the personnel needed to care for them, but here again no situation remains permanent. Some bed patients get better and become ambulatory; whereas others become bedridden, and again a too frequent moving of patients from one type of home to another may be upsetting to the patient. Once a patient has become permanently bedridden, as in the case of terminal cancer, it might be advisable to make other arrangements, but such changes or transfers are better if the decision is based upon the needs of the individual patient. There are those who advise having separate homes for different diseases, as for example, one home for cancer patients only and one for heart cases, and so on. Such a plan does have advantages, since planning for treatment and nursing care is simplified, but there is also the disadvantage of labeling a patient. In addition, there may be poor utilization of facilities with overcrowding in some homes and empty beds in others. Most authorities agree that it is not always practical or desirable to make

a classification based on sex, race, or color. If a nursing home were to accept only men or only women, couples would be separated and this would be unfortunate. There are some who advocate that nursing homes select their clientele on a financial basis; that some homes take only those patients who are recipients of old-age assistance or some other form of public aid and others take only such patients as can pay for their own care. Such a policy seems somewhat arbitrary. There will be, of course, differences in the charges of various homes, based upon the cost of the care given and this fact in itself will effect some degree of selection. However, a rigid plan of classification based only on the financial status of the patient seems to be undemocratic and inflexible.

On the whole, it would seem inadvisable to form too many arbitrary classifications since such division could prove inconvenient and undesirable. A degree of flexibility seems to be more practical for these cases requiring long-term care.

WHAT WE HAVE LEARNED FROM EXPERIENCE

We need to visit only a few nursing homes before we are able to formulate some general conclusions. First, it is fairly obvious that in most of these homes the medical supervision is far from adequate. There seem to be several reasons for this lack of medical attention. In many instances it is thought that the condition of the patient does not seem to warrant frequent visits by a physician and both the family and the operator of the home hesitate to increase the cost of the care. Sometimes the physician depends upon the operator to call him if he is needed, and then because of the pressure of his other duties he neglects to check up on the patient, and there are some physicians who say frankly that they are not interested in cases of long-term illness. All of these attitudes have combined to produce a situation where a chronically ill patient may go for months at a time without any medical attention. There have been instances where medications were given without medical direction and all too often medicines were saved after the death of a patient and used for someone else who "seemed to have the symptoms." Licensing and inspection of the homes by the health department and the installation of a record system is doing much to prevent this practice. The requiring of a medical evaluation at the time the patient is admitted to the home is helpful, but this is not enough. There is need for a more systematic and effective plan for sustained medical supervision with periodic evaluation of the patient's condition.

A second basic need is that of adequate nursing care. The majority of these homes give some nursing service and in some homes the nursing care is excellent. No home should accept patients who need services they cannot give. If the patient requires insulin or liver injections, there must be someone who can give them, or if he needs a special diet, the home should be prepared to provide that, and, of course, the patients should have the basic routine nursing care essential to all sick people, with special attention to the care of the skin. Over and above these basic services, there should be understanding and "tender, loving care." The emotional needs of the chronically ill and aged require sympathetic understanding. We are now beginning to realize that many of these patients need not become, nor do they need to remain, invalids.

A sound plan of rehabilitation can be developed and in many homes where the patients have both medical and nursing care much is being accomplished. In the past, most of the nursing homes gave little thought to the rehabilitation of their patients. It was generally believed that good nursing care consisted of keep-

ing the patient clean, well nourished, and giving prescribed medications as directed. Most of the programs of occupational therapy, the few that were attempted, were planned more for the diversion of the patient than with the idea of improving his physical condition. Since the outstanding work of Dr. Howard Rusk and his associates, there is a growing recognition of the value of a program of rehabilitation. We are now recognizing the folly of putting people to bed and keeping them there. Such a program is bad for the individual patient and if continued will, in time, burden society with a vast number of invalids that will tax our limited facilities beyond their capacity. In short, we cannot afford to make invalids out of all the chronically ill. As the number of older people increases, with the associated increase of chronic illness, we must devise ways and means of rehabilitating these people, if only to the extent that they are ambulatory and capable of self-care. Speaking at the Conference on Rehabilitation of the Older Worker, held at Ann Arbor, Mich., in July, 1951, Dr. Rusk stated that unless we initiate such programs of rehabilitation and begin to salvage as many as possible of these chronically ill people, by 1980 for every able-bodied worker there will be one aged, one disabled, and one chronically ill person. Such a load would be intolerable. We know that this can be prevented. Now we must translate our knowledge into action and the nursing homes offer a fertile field for such action.

We do know that there is the shortage of trained personnel and a lack in the coordination of the available resources; but we do have some of the necessary tools at hand and we only need to devise ways and means of using what we have. Some of the better nursing homes have started such programs and are getting good results. For example, in one nursing home, patients who had suffered strokes, following the institution of simple exercise, regained to a considerable degree the use of the affected parts. They were able to get out of bed and use a wheelchair or a walker, and then later to take some steps. This is a marked contrast to what happens in the homes where such patients are kept in bed and no attempt is made to reactivate them. In another home, patients with severe cases of arthritis became interested in occupational activities, and in spite of a considerable degree of crippling, they now work an hour or two each day. The result has been an improvement in both their physical condition and their mental attitude. Such programs are, of course, conducted under medical supervision and in homes where there is adequate nursing personnel. This is an area that needs much more study to determine just how much can be done in a nursing home and what personnel is needed.

We have learned that the physical surroundings of the nursing home are almost as important to the welfare of the patient as is the quality of nursing care that is given. Pleasant, cheerful surroundings are essential to the happiness of the patient. Not only should the home be adequately furnished and clean, but there should be some degree of privacy. Most standards for nursing homes state that there should be a given number of square feet per patient. Such requirements do prevent overcrowding, but they do not always insure the privacy desired. For example, a patient should be able to confer with his attorney or clergyman without having an audience. Family discussions, and business affairs need not be shared with all the fellow patients. For the ambulatory patients, a lounge or sitting room solves this problem, but if the patient is confined to bed, privacy is much more difficult to obtain, especially when the beds are only three feet apart. When patients are allowed to receive visitors

only on stated days at specified hours, the problem becomes more acute. In addition to a bed and a chair, the patients need space in which to store their possessions. Because they must remain in the home for a long time, they are inclined to have many of their possessions about, and storage space is necessary. It is not enough to have "one drawer in the dresser." Such a situation caused one elderly woman who was being admitted to a nursing home to say to her social worker, "It's just the anteroom to the grave." This patient was without family or friends, and when her health failed she sought care in a nursing home. She disposed of her few household possessions, and retained only the most essential things.

These long-term patients want and need to have such personal belongings as books, family pictures, cosmetics, sewing, or knitting. To reduce them to the bare essentials such as bathrobe, slippers, and toothbrush is to strip them of all incentive. They then become a body in a bed, instead of a person with a future. Not only should nursing homes provide adequate care in surroundings that are comfortable and attractive, but, in addition, the home must be a safe place. Over and above the usual fire precautions and sanitary regulations, there should be other safety devices, such as handrails, nonslippery floors and well lighted stairs and passage ways. Scatter rugs should not be used because of the danger of slipping and falling. If possible, thresholds should be eliminated to prevent stumbling and falling. In addition to privacy and ample space, there is need for recreational facilities, some place where the ambulatory patient and those in wheelchairs can congregate to play cards or enter into other activities.

Because of these various requirements we have learned that big, old houses of the so-called old mansion type are neither practical nor desirable, since all too often such houses require expensive remodeling before they can be utilized. The high ceilings make heating expensive and often the room arrangement is poor, resulting in much wasted space. Wide, open halls with winding stairs are not practical because they increase the cost of heating and are considered to be a fire hazard. Enclosing such stairways is expensive. In many of these older houses the plumbing and the heating systems are inadequate and need to be replaced, all of which adds to the expense, especially if additional bathrooms must be added. If, as often happens, these houses are surrounded by large lawns, there is an additional expense. Well kept lawns are beautiful but expensive in these days of high cost of labor and yet if they are not cared for the neglected surroundings can be depressing.

It is now generally agreed that it is highly desirable to have the nursing homes located near good transportation, not only for the convenience of the family and friends of the patients, but for the personnel. Homes located in rural or outlying areas have difficulty in attracting and keeping personnel. In addition, a central location will help to insure regular visits from the physician, thus improving the medical supervision. Close proximity to a hospital is desirable but not essential.

OUR RESPONSIBILITY AS NURSES

We as nurses have much to contribute to a program for the care of the chronically ill and to help improve conditions in these homes. There are several ways in which this can be accomplished, but before we do anything else we need to change our own attitudes toward the patient with a long-term illness. All too often we say, "Oh! Another chronic—nothing can be done," or "Chronics are such a bore—it's the same old thing every day." Such an attitude is all too prevalent among pub-

lic health nurses as well as hospital nurses. Unfortunately, there are as yet no miracle drugs for these conditions. These cases are not dramatic or exciting, but let us remember that the chances are weighted in favor of our having a long-term illness. We are all of us potential chronics, so let us do to others as we would be done by. Besides adjusting our own thinking, we must help to train the young nurses who will have to grapple with this problem in the near future. Somewhere, somehow, in our already overcrowded curriculum, we must find space for the consideration of chronic illness. In addition, there are such questions as: Should nursing home operators be registered nurses? What is the role of the practical nurse in the care of the chronically ill? How many and what type of personnel are needed in a nursing home? These are just a few of the many questions that we must help to answer.

In the meantime we can help to develop a public appreciation of some of the limitations that are an inherent part of such an institution, so that they will know what to expect from such a home. We can assist the operators of these homes in developing a better understanding of all of the needs of their patients and the need to provide ways and means of meeting these needs. We can assist in community planning; to help in determining the number and kinds of homes that are needed in our communities. We can help to stimulate the development of ways and means to provide rehabilitation and recreation programs for the patients who are confined to these homes. We can encourage support of the licensing programs conducted by health departments, and we can encourage an education program of institutes, conferences, and workshops for the nursing home operators by helping to plan for such programs and by participating in them. Until we have done our best to assist in the improvement of these homes we have no right to criticize. As nurses and citizens, we have a real responsibility to do all we can to insure adequate care for the aged and the chronically ill wherever they may be, whether it be in hospitals, nursing homes, or in their own homes. Let us not shirk this responsibility.

Social Hygiene Day, April 22

"Youth Needs You" is the slogan for the 1953 National Social Hygiene Day, sponsored annually by the American Social Hygiene Association, which will be observed on April 22. Meetings, radio and TV programs, and exhibits in communities throughout the country, will demonstrate the need for strengthening community programs that fortify family life, guide young people toward successful marriage and parenthood, prepare them for service to the nation, and protect them from promiscuity, prostitution, and venereal disease.

This theme for Social Hygiene Day was chosen, according to the association's executive director, Conrad Van Hyning, after a recent poll of 6,000 young people revealed that their principal concerns today are the draft, unhappy family relationships, the development of a healthy attitude about sex, and "finding the right boy or girl."

Publicity material useful in planning local observance of Social Hygiene Day is available from American Social Hygiene Association, 1790 Broadway, New York 19.

This (fourth) decennial school health survey reveals a considerable improvement over the 1940 findings. But still there is a lot to be done if our 30 million school children are to be given the protection they need and deserve.

Health Services in City Schools—Administrative Aspects*

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IN this paper are summarized certain highlights of a study[1] of school health services in cities of 2,500 and above made by the U. S. Office of Education in cooperation with the American Medical Association and the U. S. Public Health Service. Studies of a similar nature were made by the Office of Education in 1922,[2] 1930,[3] and 1940.[4]

SURVEY PROCEDURE

The information presented in this report has been obtained through two questionnaires. The first one was mailed during the school year 1949–1950, and the second one, during the year 1950–1951. To simplify the use of dates in the report, the year 1950 is used as the reference date.

On the first questionnaire, information was requested as to whether a school system had school health services available. Requested, also, was information about the authority administering and financing the school health program and the personnel available for school health services. This questionnaire was mailed to superintendents of schools in each of the 3,430 cities in the continental United States having a population of 2,500 or more, as based on the latest (1940) census information available at that time. Of this number of cities, 3,186, or 92.9 per cent, replied.

The second questionnaire included a variety of questions concerning specific phases of the school health service program, such as the medical and dental examinations. The Public Health Service and the American Medical Association cooperated in the preparation of the questionnaire. It was sent to each of the 1,012 cities with a population of 10,000 or more which had reported having school health services, and to half the 1,874 cities with a population of 2,500 to 9,999 which had reported school health services. The total number of usable returns was 1,566 or 79.4 per cent.

In analyzing the data, a breakdown was made by city size as follows: Group I—100,000 (93 cities); Group II—30,000 to 99,999 (259 cities); Group III—10,000 to 29,999 (724 cities); and Group IV—2,500 to 9,999 (2,354 cities).

The information has also been studied on the basis of geographical groupings using the nine census regions which are: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central,

* Presented before a Joint Session of the American School Health Association and the Dental Health, Food and Nutrition, and School Health Sections of the American Public Health Association at the Eightieth Annual Meeting in Cleveland, Ohio, October 21, 1952.

TABLE 1

Number of Cities in the United States Having a School Health Service in 1950

City population group *	Number of cities	Cities reporting		Cities having a school health service	
		Number	Per cent	Number	Per cent
1	2	3	4	5	6
Continental United States	3,430	3,186	92.9	2,886	90.6
Group I (100,000 and above)	93	93	100.0	93	100.0
Group II (30,000 to 99,999)	259	253	97.7	251	99.2
Group III (10,000 to 29,999)	724	687	94.9	668	97.2
Group IV (2,500 to 9,999)	2,354	2,153	91.5	1,874	87.0

* Based on the 1940 census.

West South Central, Mountain, and Pacific.

THE NUMBER OF SCHOOL HEALTH SERVICES

The school superintendents to whom the questionnaire was sent were asked to check as to whether or not health services were available in their respective school systems. The following statement, intended to serve as a guide to the respondent in answering the question, appeared on the questionnaire: "For the purposes of the questionnaire, the only phases of the school health service program to be considered are (a) the medical examination, and (b) the dental examination or inspection."

A summary of the number and per cent of school systems having a school health service is presented in Table 1. There were 3,186 school systems in the United States replying to the questionnaire. Of this number, 2,886, or 90.6 per cent, reported the presence of school health services.

A comparison between the number of school systems reporting school health services for the years 1930, 1940, and 1950 shows that there has been a progressive increase in the number of cities having a school health service in some stage of development. For example, in 1930, of the 60 per cent of cities replying, 90 per cent in Group II and 83 per cent in Group III reported a school health service. In 1940 the corresponding percentages were 99 and 98 with about 70 per cent of the cities replying. In 1950 the percentages were about the same as for 1940, but with nearly all (93 per cent) school systems returning the questionnaire.

City Size—All the large cities—cities with a population of 100,000 or over—reported that they had school health services.

In contrast, 87 per cent of the cities reporting in Group IV—those with a population between 2,500 and 9,999—indicated that they had some type of school health service.

Regions—Two of the nine regions—New England and the Middle Atlantic—reported that all city school systems have health services. The percentages

TABLE 2

Agencies Responsible for Financing and Administering School Health Services in Cities Over 2,500, by City Population Group: 1950

City population group and function	*Number of cities reporting*	*Per cent of school health services under—*			
		Board of Education	*Board of Health*	*Joint authority*	*Other authority*
1	*2*	*3*	*4*	*5*	*6*
United States	2,886				
Financing	——	54.9	10.5	23.3	11.3
Administering	——	60.2	10.9	23.0	5.9
Group I	93				
Financing	——	60.2(71)	16.1(25)	19.4(5)	4.3
Administering	——	61.3(65)	12.9(31)	22.6(4)	3.2
Group II	251				
Financing	——	63.3(70)	13.5(21)	19.6(6)	3.6
Administering	——	66.1(71)	13.9(23)	18.7(6)	1.3
Group III	668				
Financing	——	61.1(77)	7.8(7)	22.3(11)	8.8(5)
Administering	——	66.0(75)	8.1(9)	22.2(16)	3.7
Group IV	1,874				
Financing	——	51.2	10.8	24.4	13.6
Administering	——	57.3	11.4	24.0	7.3

Note: Figures in parentheses are percentages for 1940 from the U. S. Office of Education, *Health Services in City Schools*, by James F. Rogers. Washington, D. C., Gov. Ptg. Office, 1942.

of cities in the other seven regions having health services are in descending order: Pacific (97.3), East North Central (91.5), South Atlantic (91.2), Mountain (88.3), East South Central (85.3), West North Central (81.4), and West South Central (71.0).

ADMINISTRATION

The administration of the school health service program is ordinarily done by the group which finances it. This was also the situation in 1940.

The data presented indicate that there is a slight but definite trend toward joint administration and financing of the school health programs. However, the school health program is still predominantly administered and financed by boards of education.

By regions, the board of education administration and financing is highest for Middle Atlantic and West North Central and lowest for South Atlantic and East South Central. Correspondingly, these responsibilities for the board of health are reported as highest for South Atlantic and East South Central and lowest for Middle Atlantic, West North Central, and Mountain. Joint authority is highest for South Atlantic and East South Central and lowest for West North Central and Middle Atlantic.

United States—For all the 2,886 cities reporting school health services, 60.2 per cent were administered by the board of education; 10.9 per cent by the board of health; 23.0 per cent jointly by boards of education and health; and 5.9 per cent by other authorities.

In 1940, for all cities of 10,000 and above, 73.4 per cent were administered by the board of education; 14.3 per cent by the board of health; and 12.6 per cent by joint authority. There were no other administering agencies. In 1950 the board of education administration for cities of 10,000 and above had dropped from 73.4 per cent to 65.6 per cent; the board of health administration from 14.3 per cent to 10.0 per cent; the

joint authority had increased from 12.6 per cent to 21.3 per cent; and "other" authorities had increased from 0.0 to 3.1 per cent.

City Size—Of the 93 large cities comprising Group I, 57, or 61.3 per cent, indicated that the board of education was the administering agency; 12, or 12.9 per cent, the board of health; 21, or 22.6 per cent, joint administration; and 3, or 3.2 per cent, other methods. The percentage range by regions for board of education administration is 100.0 to 30.0 with West North Central and West South Central highest and South Atlantic and New England lowest.

Of the four city population groups, board of education administration is the lowest in Group IV—the small cities—with 57.3 per cent reporting this agency. The board of health administers in 11.4 per cent of these cities. Joint administration is highest in this city size with 24.0 per cent reported. The percentage range by regions for board of education administration is 83.3 to 17.1 with West North Central and Middle Atlantic highest and South Atlantic and East South Central lowest. Board of health administration varies from 33.8 to 2.0 per cent being highest in East South Central and South Atlantic and lowest in Middle Atlantic and Mountain. Joint administration ranges from 50.2 per cent to 7.8 per cent with South Atlantic and East South Central highest and West North Central and Middle Atlantic lowest.

FINANCING

For all the 2,886 cities reporting, 54.9 per cent of the school health service programs were financed by the board of education; 10.5 per cent by the board of health; 23.3 per cent jointly, and 11.3 per cent by other methods.

In 1940, for all cities of 10,000 and above, 75.4 per cent were financed by the board of education; 12.1 per cent by the board of health; 9.2 per cent jointly; and 3.3 per cent by other authorities. In 1950 the board of education financing for cities of 10,000 and above had dropped from 75.4 per cent to 61.6 per cent; health department financing had dropped from 12.1 to 10.0 per cent; joint financing had increased from 9.2 to 21.3 per cent; and other authority had increased from 3.3 to 7.1 per cent.

City Size—The extent, by city size, to which different agencies finance the school health service follows:

Of the 93 cities in Group I, 60.2 per cent reported that the financing agency was the board of education; 16.1 per cent, the board of health; 19.4 per cent, joint financing; and 4.3 per cent, other methods.

In cities comprising Group II, the financing agency is as follows: board of education, 63.3 per cent; board of health, 13.5 per cent; joint financing, 19.6 per cent; and other methods, 3.6 per cent.

In Group III the financing agency is as follows: board of education, 61.1 per cent; board of health, 7.8 per cent; joint financing, 22.3 per cent; and other methods, 8.8 per cent.

Corresponding percentages for Group IV are: board of education, 51.2 per cent; board of health, 10.8 per cent; joint financing, 24.4 per cent; and other methods, 13.6 per cent.

Regions—By regions, the percentages for all cities having financing done by boards of education are highest in West North Central, Middle Atlantic, and Pacific and lowest in South Atlantic, East South Central, and Mountain—the range being from 82.0 per cent to 15.0 per cent. Corresponding percentages for cities having the financing done by boards of health range from 30.6 to 2.4 per cent, the highest being in East South Central and South Atlantic and lowest in West North Central and Middle Atlantic. Joint financing ranges from 43.3 to 8.2 per cent for the nine regions with South Atlantic and

TABLE 3

Per cent of School Systems Reporting the Availability of Personnel for School Health Services, by Type

City population group	Per cent of school systems reporting personnel, by type					
	Physician	Nurse	Dentist	Dental hygienist	Others	No personnel *
1	2	3	4	5	6	7
United States	62.9	85.4	40.4	15.9	11.7	9.4
Group I	94.6	100.0	80.6	51.6	39.8	0.0
Group II	81.8	97.6	59.7	31.6	18.2	0.8
Group III	71.9	94.6	47.0	21.8	11.2	2.8
Group IV	56.4	80.4	34.2	10.6	9.8	13.0

* This column represents the school systems which reported that they had no school health service and consequently no personnel.

East South Central highest and West North Central and Middle Atlantic lowest.

PERSONNEL AVAILABLE FOR SCHOOL HEALTH SERVICES

The extent to which school health service personnel is available in the various school systems is indicated in Table 3. The number of school systems having various kinds of school health personnel is as follows: physicians, 2,004 or 62.9 per cent; nurses, 2,720 or 85.3 per cent; dentists, 1,286 or 40.4 per cent; dental hygienists, 506 or 15.9 per cent; other school health personnel, 372 or 11.7 per cent; and "no" personnel, cities with no school health services, 300 or 9.4 per cent.

In general, such personnel was more available along the seaboard states and least available in the mountain and central states. The larger cities had the highest percentages of professional personnel available; whereas the smaller communities had relatively less help. Nearly all the cities of 2,500 in population and above had nursing service or consultants available.

Physicians—The availability of physicians ranges from 97.3 per cent for Middle Atlantic and 92.7 per cent for New England to 34.6 per cent for West South Central and 33.0 per cent for West North Central. By city size, it ranges from 94.6 per cent for Group I to 56.4 per cent for Group IV.

Nurses—The extent to which nurses are available varies, by regions, from 99.1 per cent for New England and 97.6 per cent in Middle Atlantic to 62.4 per cent in West South Central and 72.3 per cent in West North Central. By city size, the range is from 100 per cent for Group I to 80.4 per cent for Group IV.

According to the Public Health Service,[5] 6,088 nurses were employed by local boards of education in 1951. This figure indicates an increase of 51.8 per cent over the number employed in 1941, as compared with a 24.6 per cent increase in the total number of nurses in all fields for that period. This number of school nurses also represents 23.9 per cent of the 25,461 nurses in all fields in that year as compared with 19.6 per cent in 1941. These data indicate that during the past decade there have been increases both in the total number of nurses employed by local boards of education as well as in the relative percentage of all nurses so employed.

Local official health agencies, by comparison, employed 12,556 nurses in 1951; this figure represents an increase of 31.4 per cent over the figure for 1941.

TABLE 4

Per cent of School Systems in Which School Nursing Is Provided, by Type

City population group	Per cent of school systems in which school nursing is provided through—				
	Specialized school nursing service	Generalized public health nursing service	Combination of (2) and (3)	Other plans	No provision
1	2	3	4	5	6
United States	54.1	30.6	7.9	1.7	5.7
Group I	64.3	25.0	8.3	2.4	0.0
Group II	68.7	19.9	7.1	2.4	1.9
Group III	66.3	19.5	7.3	0.4	3.5
Group IV	45.3	36.9	8.2	2.1	7.3

Local nonofficial agencies employed 4,774 nurses in 1951; this figure represents a 17.7 per cent decrease from 1941.

Dentists—The availability of dentists ranges, by regions, from 70.6 per cent for Middle Atlantic and 59.4 per cent for New England to 19.0 per cent for West South Central and 18.6 per cent for Mountain. By city size, the range is from 80.6 per cent for Group I to 34.2 per cent for Group IV.

Dental Hygienists—The extent to which dental hygienists are available varies, by regions, from 32.9 per cent for New England, 21.5 per cent for Pacific, and 20.5 per cent for Middle Atlantic to 4.1 per cent for Mountain, 3.0 for West North Central, and 2.8 per cent for West South Central.

SCHOOL NURSING SERVICE

The percentage of school systems reporting various plans for providing nursing service to schools is shown in Table 4. For the country as a whole specialized school nursing service is the most common plan with 54.1 per cent of the school systems so reporting. Another 30.6 per cent of the school systems state that they have the generalized public health nursing service. A combination of these two plans occurs in 7.9 per cent of the cities; 1.7 per cent report other plans; and 5.7 per cent indicate that they have no provision for school nursing service.

City Size—On the basis of city size, the percentages of cities having a specialized school nursing service are approximately the same for Groups I, II, and III, ranging between 64.3 and 69.3 per cent. In Group IV, however, only 45.3 per cent of the cities report such a service.

The percentage of cities, by city size, having a generalized public health nursing service is as follows: Group I, 25.0 per cent; Group II, 19.9 per cent; Group III, 19.5 per cent; and Group IV, 36.9 per cent.

Regions—The percentages of school systems, by regions, that reported special school nursing services range from 86.0 per cent for Middle Atlantic to 11.2 per cent for East South Central. There is an exact reversal in order of rank for the nine regions regarding the percentages of cities having a generalized public health nursing service, the figures ranging from 69.2 per cent to 5.0 per cent. The ranking is as follows, with the first figure representing the percentage for specialized school nursing services and the second figure that for generalized public health nursing services: Middle Atlantic (86.0, 5.0); New England (76.6, 10.9); West North Central (62.4, 18.4); Pacific (53.6, 28.4); Mountain (50.5, 28.7); East North

Central (48.0, 34.9); West South Central (35.9, 50.3); South Atlantic (16.5, 66.3); and East South Central (11.2, 69.2).

ADMINISTRATIVE RELATIONSHIPS OF THE HEALTH SERVICES TO HEALTH INSTRUCTION AND PHYSICAL EDUCATION

There are three areas of the school program which are closely related administratively, namely, the school health service, health instruction, and physical education. In order to determine the type and extent of such relationships, the schools were requested to indicate the kind of administrative control which these three programs had in their school systems.

Ten administrative relationships were reported. These are grouped here into three broad classifications:

1. *Separate administrative head*—Of the 1,566 school systems reporting, 34.3 per cent indicated that each of the three programs was under a separate head. This plan is most common in Group I with 50.0 per cent of the cities so reporting.

2. *One administrative head*—Over half (53.0 per cent) of the schools reported that the three programs—health service, health instruction, and physical education—were under one administrative head. There are three variations of this plan, as follows:

a. Physical education has administrative control over both the health service and health instruction. This plan was the one most frequently reported of the three listed under "one administrative head."

b. The health service has administrative control over both health instruction and physical education. This plan ranked second in frequency.

c. Health instruction has administrative control over both health service and physical education. This plan ranked third in frequency. This ranking is perhaps, in part, explained by the fact that health instruction is less frequently a regular part of the school program than is the case with the health service and physical education.

3. *Other administrative plans*—The remaining 12.7 per cent of the school systems report the following plans:

a. The health service has its own administrative head and physical education is over health instruction. This plan ranked highest of the "other" plans. In cities where the board of health administers the school health service, there is a tendency for that service to be under its own administrative head.

b. Physical education has its own administrative head and health service is over health instruction. This plan ranked second.

c. Physical education has its own administrative head and health instruction is over the health service.

d. The health service has its own head and health instruction is over physical education.

e. Health instruction has its own head, or at least is not under the direction of the other two programs, and physical education is over the health service.

The administrative relationships of the three programs by city groups are as follows:

Group I—Of the 84 cities reporting, 50.0 per cent have separate administrative heads for the three programs. Another 26.2 per cent have one head. The remaining 23.8 per cent of the cities are under "other" plans.

Group II—Of the 211 cities reporting, 38.9 per cent state that the three programs are each under a separate head; 42.7 per cent are reported as being under one head; and 18.4 are under "other" plans.

Group III—Of the 563 cities reporting, 38.7 per cent have three separate heads; 52.9 per cent of the cities report these programs under one head; and 8.4 per cent have "other" plans.

Group IV—Of the 708 cities reporting, 30.9 per cent have three administrative heads; 55.5 per cent have one administrative head for these three programs, and 13.6 per cent report "other" plans.

SUMMARY

1. A considerable increase has occurred since the last report in 1940 in the number of school systems having health services within

the scope of their school health programs. However, much still needs to be done if all of our 30,000,000 school children are to have adequate school health service programs.

2. School health services are reported in 91 per cent of all school systems in cities with a population of 2,500 and above. Such a school health service includes at least a medical examination and a dental examination or inspection.

3. The administrative authority for the school health service program, reported by 2,886 city school systems, is as follows: board of education, 60 per cent; board of health, 11 per cent; jointly by boards of education and health, 23 per cent; and by other authorities, 6 per cent. The administration of the school health service programs is ordinarily done by the group which finances it.

4. The financing authority for the school health services is as follows: board of education, 55 per cent; board of health, 10 per cent; joint financing, 23 per cent; and other authority, 12 per cent. There is a definite trend toward joint administration and financing of school health programs. However, the school health program is still predominantly administered and financed by boards of education.

5. Professional personnel is available in city school systems as follows: physicians, 63 per cent; nurses, 85 per cent; dentists, 40 per cent; dental hygienists, 16 per cent; other personnel, 12 per cent; and no professional personnel, 9 per cent.

6. At least one medical examination is required of each pupil while in school by 83 per cent of all school systems, and 17 per cent require 8 to 14 examinations. At least one dental examination is required by 59 per cent of the cities, and 25 per cent require 7 or more.

7. School nursing service is reported, by plan, as follows: specialized school nursing service, 54 per cent; generalized public health nursing service, 30 per cent; a combination of the 2 plans, 8 per cent; other plans, 2 per cent; and no provision for school nursing service, 6 per cent.

8. The school health service program is often closely related administratively to health instruction and to physical education. Half (53 per cent) of the school systems reported that the three programs were under one administrative head; one-third (34 per cent) reported 3 separate heads; and the remainder (13 per cent) indicated that one program had its own head whereas the other 2 were administered jointly.

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Two barriers to the full utilization of the nation's human resources are: a reluctance of industry to employ older workers, the handicapped, and women operatives; and the lack of in-plant health services in smaller industries. How a national committee is going about lowering these barriers becomes a matter of concern to all in public health.

Activities of the Health Resources Advisory Committee, Office of Defense Mobilization—Rusk Committee*

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THE Health Resources Advisory Committee was established August 5, 1950, at the suggestion of the President, by the chairman of the National Security Resources Board to advise that body on matters concerning the health resources of the nation as they relate to national defense. This eight-man committee was chosen to include the broadest possible representation of the various disciplines concerned with health and the geographical distribution of the health resources in the nation. It was charged by the chairman of the National Security Resources Board with responsibilities for policy formation and limited operational activities in roughly these areas:

1. Mobilization, allocation, and utilization of personnel for wartime health services.
2. Provision for environmental sanitation services, including *industrial health services.*
3. Provision for veterinary medical services, with special emphasis on early detection of possible new diseases introduced as a part of biological warfare.
4. Utilization of health facilities, including hospitals, clinics, laboratories, and suitable quarters for emergency health activities.
5. Provision for health equipment, supplies, medicines, chemicals, biological preparations, and blood and blood derivatives.
6. Recommendations to assure maintenance of essential teaching and research in the health fields.

In addition, on October 4, 1950, the President designated the chairman and members of the Health Resources Advisory Committee as the National Advisory Committee to the Selective Service System as authorized in Public Law 779.

In April, 1951, the Health Resources Advisory Committee and its supporting staff were transferred to the Office of Defense Mobilization.

Despite the brevity of its existence, the committee has a rather imposing list of accomplishments to its credit. Among other activities, it has been responsible for the creation of the Interagency Health Resources Council, which brings together the top heads of the medical-health agencies to discuss mutual problems and develop coordinated action.

Another important task has been the review of military health personnel needs, resulting in more effective utiliza-

* Presented before the Industrial Hygiene Section of the American Public Health Association at the Eightieth Annual Meeting in Cleveland, Ohio, October 21, 1952.

tion of health personnel by the Armed Forces. To date, savings to the Armed Forces have been calculated at from 40 to 50 million dollars, and the services of about 5,000 physicians have been conserved for the public.

Through the efforts of the committee, there has also been devised a single national blood program, coordinating the efforts of the Red Cross, the Armed Forces, and the Federal Civil Defense.

Examination by the committee of pressing hospital problems, including the critical and increasing shortage of nurses, has resulted in the formation of a subcommittee which is studying methods for improved utilization and maximum school enrollment of nurses.

The committee has also worked on health problems related to federal civil defense activities, having instigated and participated in the preparation of a manual for use in the Health and Special Weapons Defense Program. It is also coordinating the development of plans for health services during any post-disaster period.

Among its various studies of health resources, the committee has conducted:

a. A survey of teaching staff needs of medical, dental, veterinary, and public health schools
b. A survey of state and local health departments' staffing needs
c. Three inventories of the interns and resident staffs of the hospitals of the United States
d. A study of the professional staffing patterns of governmental health services
e. A survey of the current supply, potential future supply, and needs for physicians, dentists, veterinarians, and nurses

Upon specific request of congressional committees, the Health Resources Advisory Committee also has analyzed and expressed opinions on, and in one instance testified for, specific legislation.

In May and June, 1951, soon after its transfer to the Office of Defense Mobilization, the committee invited a number of prominent leaders in the field of industrial medicine from universities, private industry, and voluntary and official organizations to present to them the problems and needs for industrial health services. These meetings reaffirmed the committee's convictions that a great need exists for comprehensive in-plant health services, especially in small plants.

As one of its first approaches toward this end, the committee designated a task force with a representative from the Department of Commerce, the Department of Labor, and the Public Health Service to investigate methods by which government contractors could be induced to furnish at least minimal protective health services to their employees. The writer had the good fortune to be named chairman of that task force, and we quickly found that the Walsh-Healey Act is the only tool available for the job.

This Act provides, among other things, that an employer shall not produce goods under working conditions which are insanitary or hazardous, or dangerous to the health and safety of employees engaged in the performance of the contract. The Secretary of Labor is charged with the enforcement of the Act and has published *Safety and Health Standards* for the guidance of government contractors.

The standards, as originally written, made ample provisions for safety work but were deficient in provisions for industrial health services. Suitably worded additions for health services were drawn up, reviewed, and edited by the Rusk Committee and forwarded to the Secretary of Labor. The Secretary, accepted the revised standards, and they are now in press. Minor changes were made in Part I, "Occupational Health and Safety Programs Pay Dividends." Part II, "Safety Requirements," remains unchanged, but Part III, "Occupational Health Requirements," was entirely reorganized and rewritten under three headings: (a) medical services, (b) en-

vironmental conditions and personal services, and (c) special sanitation services.

In January, 1952, the committee held a meeting in Pittsburgh, during the time that the 12th Annual Congress on Industrial Health was in session. Further evidence of the committee's sincere interest in occupational health was demonstrated when Dr. Rusk delivered to this congress one of his memorable addresses entitled "Industrial Medicine's Answer to Manpower Conservation."

In seeking further means to conserve the nation's man power, the committee recognized two major barriers to the full utilization of our human resources. The first is the reluctance of industry to open completely its doors to older workers, the handicapped, and women. The second is the widespread lack of in-plant health services, which not only would meet any special health needs of these groups but also would protect, improve, and maintain the health of all the workers.

Careful examination revealed that these barriers are, to a great extent, based on erroneous impressions and false prejudice, rather than informed, unbiased reasoning. It was felt, therefore, that these obstacles may be overcome largely through repeated, convincing statements of the facts.

As the first step in an educational program aimed primarily at industry, the committee has instigated the preparation of a series of four pamphlets entitled *The Worker and His Health, The Disabled Can Work, Production at Any Age,* and *A Job for Women.* The purpose of these publications is to present in succinct form the values of establishing in-plant health services, and of employing older workers, the handicapped, and women. Because of their brevity, they include only the salient facts, but anyone interested in substantiating data may consult the publications listed in the selected bibliographies appended to each pamphlet. Since you are in a position to help industry effectuate the purposes of these publications, you may be interested in a brief description of their contents.

The theme of the pamphlet on *The Worker and His Health* centers around the tremendous loss caused by sickness absenteeism in industry and the contribution of in-plant health services to its reduction. Sickness absenteeism in industry accounts for a loss each year of 400–500 million man-days, roughly the equivalent of 2 million men off the job each day. Experience has proved that from one-third to one-half of this tremendous loss can be reduced by the establishment of in-plant health services. The concrete benefits of in-plant health programs, both to the employee and the employer, far outweigh their costs, for healthy people, working at jobs they are physically able to do, are among a company's greatest assets. In addition to their values to the individual plants and employees, these programs, in the aggregate, represent one of the best means of conserving limited man power for military and civilian production.

Utilization of older workers, the handicapped, and women to meet industry's man power requirements is pointed up in the other three pamphlets. Job performance records for these groups compare favorably with those of other workers. It has been demonstrated repeatedly that, with proper placement, taking into account any special health problems and matching the talents, work experience, training, skill, and physical ability of the person, they can perform successfully any number of jobs.

In-plant health programs help to maintain the health and productivity of these workers. In view of the fact that these groups represent growing segments of our population, it is vital to our future economy, as well as the present defense effort, to keep them fully productive.

It may very well be said that we in industrial medicine, industrial hygiene, and occupational health in its broadest sense have found a new ally in the Rusk Committee. Before us lie tremendous possibilities. The need is great; we have the tools and can do the job; and now long overdue recognition is coming. It is important that all of us engaged in the entire field of occupational health know and understand the great and continued interest of the Office of Defense Mobilization—the Rusk Committee—in our work. This interest and boost stems quite properly from the committee's desire to increase and maintain the industrial productivity of this nation.

A Citizen's Public Health Conference

The University of Michigan School of Public Health is holding a "first" Citizen's Public Health Conference on March 25 and 26. "On the assumption advanced by members of the legislature on the Planning Committee that appropriating bodies will buy the health services that the voters and taxpayers indicate they want to pay for," the conference is designed to help the consumer of health services study his own needs. "Anyone interested in public health in Michigan" is eligible. The program was planned by a committee of 24 persons, chaired by Howard R. Estes, chairman of the Public Health Committee of Michigan's House of Representatives and including representatives of industry, labor, farmers, civic organizations, service clubs, and official agencies. The announced objective is to "provide an opportunity to become informed about and discuss public health problems and programs and to determine public health needs and how to develop effective public health programs and services."

Henry F. Vaughan is dean of the school; H. E. Miller is the director of continued education to whom all inquiries should be addressed. Ann Arbor, Mich. Enrollment fee $2.

Fear of the dentist's drill and "convenient forgetting to brush teeth" are perhaps the most prevalent examples of the influences that emotions may play in the acceptance of health guidance. As in other fields, human relations have too long been neglected in public health dentistry, but here it is related that something is being done to end the neglect.

Teaching Human Relations in Dental Public Health Work*

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THE dentist, whether in public health or private practice, is consistently confronted with problems in human relations. There are times when his special skills and knowledge of dentistry are denied the fullest opportunity to be used because of fear, evasion, or anxiety in a patient. In addition, studies in Illinois show that only one in four adults and one in 25 children needing dental attention are receiving this care. Although the cost of care and the lack of dental facilities account for some of this situation, it is also common knowledge that many people are avoiding dental care because of resistance to it. A public opinion survey recently conducted among dental patients under the sponsorship of the Second District Dental Society of Tennessee revealed that 50 per cent of the patients think people postpone or cancel visits because they fear pain.

Recently many public health dentists in trying to work with the public and its officials in promoting fluoridation of water supplies have had some firsthand experience with resistance, indifference and even belligerence. From these experiences we know that emotional reactions prevent many individuals from receiving the dental care they need and thus have a direct bearing on the efficacy of our public health programs in dentistry.

During the summer of 1951 some 237 dentists in the State of Tennessee attended a series of seminars which included a presentation of "Human Relations in the Practice of Dentistry." In the contacts and interviews that developed in connection with the preparation for and execution of these seminars we discovered that individuals in the dental profession are eager and ready for more information on personality dynamics, and the skills and understandings basic to improving human relations. These dentists specifically requested help that would enable them (1) to better understand "problem patients," (2) to deal with the public's "general fear of dentistry," and (3) to learn the skills of motivating people to accept and follow through on dental procedures. During these seminars it was repeatedly stated that, "We should have had these understandings about human behavior taught to us in dental school." Out of this informal survey and other contacts has emerged the concept that the mental health professions can make a concrete contribution to the practice of public health and private dentistry.

* Presented before the Dental Health Section of the American Public Health Association at the Eightieth Annual Meeting in Cleveland, Ohio, October 22, 1952.

It is evident that any contribution by mental health personnel must not only present practical "down to earth" knowledge about personality, emotional reactions, and the factors in motivation, but also provide some method of teaching the skills necessary to put this knowledge into action. As in dentistry, itself, knowledge of theory is not enough. Just as the dentist spends hours practicing his manual skills, he will also need the opportunity to develop the verbal skills that will enable him to convert psychological knowledge into good working relationships with patients. With the recent development of role-playing technics of teaching we are now in a better position than ever before to teach these skills effectively.

With full recognition that such human relations teaching cannot hope to be a complete preparation in human psychology we have tried to identify certain "core learnings" which can be taught in a brief workshop or as a unit of a course in a dental school. Our talks with dentists have convinced us that the major area for learning lies in the study of the manner in which emotions and feelings affect the behavior of people. We found most dentists prepared to educate, to convince by argument, or to deal with the patient on an intellectual level. On the other hand many of them are not yet acquainted with the understandings basic to working with a patient's "feelings," "to work with him on the emotional level." Because of their lack of awareness of relationship methods, some of them, as many other professional people still do, try to argue feelings out of people, try to tell them not to be afraid, or try to deal with anxiety only with intellectual tools. These observations led to our identifying certain learning experiences in the field of human emotions as a principal part of the content needed.

The understandings which appear to be the most meaningful to the dentists with whom we have worked center about "the feelings" of the patient or the public official with whom they are working. Actually, a comprehension of the way that one's own feelings and the other person's feelings affect a relationship becomes the learning goal, and the instructor's task is to erect a series of experiences that will provide this understanding. By using a workshop methodology which is described in the September, 1952, issue of the *American Journal of Public Health* under the title of "In-service Mental Health Education Through Group Experience Workshops," we feel it is possible to provide such series of learning experiences for student or graduate dentists.

Following the methodology referred to previously we have found it important first to provide the trainee dentists with a conceptual framework about human behavior through a lecture and chalk talk which covers: (1) the role of emotional growth in personality development, (2) the component parts of personality, and (3) the physiological basis of emotions. Out of this material is developed a concept of the basic emotional needs of the individual and how these needs motivate and color behavior.

After this intellectual foundation is laid, a series of role-playing devices are utilized so that the trainees can actually experience the "feelings" involved. The experiences begin with a study of how feelings are communicated. For example, a series of silent roles are played of a dentist approaching a patient in a dental chair. After each role is played the students are then asked to portray their reaction to this person, and in so doing they become aware that the role-player has transmitted to them, without words, certain feelings. This demonstration opens up the whole area of the nonverbal communication of feelings for discussion, leading to opportunities to explore how this affects the patient's confidence in his dentist or aids the professional per-

son in diagnosing the "feeling problem" with which he is confronted within the patient.

Other similar "experience technics" are used to help the group study: (1) the way the patient's expectations about the dentist affect a relationship, (2) how the "counter-feelings" in the dentist toward the patient complicate his relationships, and (3) the impact that certain qualities of personality can have upon a relationship, such as the dentist's warmth, noncritical attitude, and attitude of acceptance.

After these foundation experiences, actual problem situations from the dentist's daily work with people are studied by having one person play the role of the "problem person" and another person, aided by the group, attempt to be a "helping person." In these sociodramas and the discussion that they provoke, some of the specific skills and understandings of building helpful relationships emerge and are formulated into principles. Here the dentist can actually practice working with anxiety, fear, and resistance in another person, and can "practice reality" before he actually meets the situation. He can work out not only the "words" needed, but by experience begin to sense the attitudes in himself, basic to better relations with others. The trainee dentist begins to get a clearer picture of himself and his own feelings about people.

Space and time do not permit relating in detail the skills and learnings which usually arise in these experiences. These core learnings in human relations for dentists have been listed and described at length in an article on "Human Relations in the Practice of Dentistry" printed in the October, 1951, issue of the *Journal of the Tennessee State Dental Association*. In the subjective evaluations which we have received from dentists, some have said, "I now feel acquainted with a whole new set of procedures and understandings." Others have reported that learning to work with "feelings" in people has actually resulted in less appointment cancellation and more cooperation in the chair. For some in the public health field, they have said it has helped them build stronger relationships with public administrators.

Some of this methodology and some of these "core learnings" were utilized recently at the University of Alabama School of Dentistry to prepare dental students for a field work experience in public health dentistry. Under the leadership of Dr. Polly Ayers of the Jefferson County-Birmingham Health Department, assisted by personnel from the State Division of Mental Hygiene, a brief experience was used to "anticipate" and work out with the students some of the human relationship problems they would meet working with school children and teachers in a dental trailer unit that visits local schools. Typical problem children or adults' roles were played out in sociodramas. The role that feelings play was portrayed and some of the skills in the use of self were demonstrated. There was not only an enthusiastic response by the students, but there was actually better performance by the students during their field work experience.

In summary, we have tried to portray a potential area of contribution by mental health personnel to public health and private dentistry.

By informal survey and field experience we have identified the needs of the dental profession for human relations understanding and skills to work with difficult patients, to diminish the general "fear" of dental procedures, and to motivate the public to better utilize the resources of dentistry. We have tried to isolate from the mass of psychological knowledge certain core learnings on the role of feelings in behavior that can be presented in brief, inservice or preservice courses. The possibility exists that existing group experience methods of

teaching can be used effectively not only to teach these understandings and skills, but also to portray the attitudes and understandings of self basic to their use. It is our hope that dentists who have acquired human relationship skills and a capacity to understand and work with feelings will find themselves better prepared to meet the emotional problems which at times block effective dental practice and the development of public health programs to better the dental health of our people.

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Blackwell Citations to Five Women

Five women physicians in January received the 1953 Elizabeth Blackwell citations of the New York Infirmary for Women and Children, honoring the first woman doctor in the United States and the founder of the New York Infirmary. The women physicians cited are:

Alice M. Hamilton, pioneer in industrial medicine research

Josephine Neal, specialist in infectious diseases of the central nervous system and infantile paralysis research

Ellen C. Potter, former welfare commissioner of Pennsylvania and member of the New Jersey Governor's Commission on Chronic Illness

Florence R. Sabin, former professor of histology, Johns Hopkins University, member emeritus, Rockefeller Institute for Medical Research, and member Colorado Governor's Health Planning Commission

Ida S. Scudder, missionary in India for more than half a century and founder of the Woman's Medical College of Vellore.

Dr. Hamilton received a Lasker Award of the American Public Health Association in 1947; Dr. Sabin in 1951.

Mature judgment is called for in balancing all advisory services, avoiding—as instanced in this paper—the writing of long reports when queries might better be answered in a few persuasive sentences. We are concerned here with the health department's contribution to industrial hygiene but what is explored in that area can be carried over into others of the advisory aspects of the community health program.

What Industry Expects of the Official Industrial Hygiene Agencies*

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MOST of us will accept as a fact that there is a need for public agencies of industrial hygiene. Management in private industry has the prime responsibility for preserving the health and safety of its workers, but often through ignorance, and sometimes through carelessness, it is unaware of job environments that adversely affect the health, productivity, or morale of its workers. Often, too, those most needing advice in industrial hygiene are least aware of their need for such advice.

Major examples of mass occurrences of occupational diseases in various industries were the famous radium painting cases at the time of the first World War in the watch industry; the cases of beryllium poisoning in the fluorescent lamp industry following the second World War; and the cases of silicosis in the mining and foundry industries which have required persistent attention over many years. Within the past ten years many of the larger industries have been developing their own industrial hygiene services, and it seems likely that this trend will continue. Such services, however, require highly trained men and are too costly for many small industries. In these smaller industries, unable to provide their own industrial hygiene services, exists the greatest need for public industrial hygiene agencies.

Another type of need sometimes arises when management and employee differ on the degree of a hazard and earnestly seek the advice of a competent unbiased third party. Public hygiene agencies can be a valuable source of such advice, and should set standards to serve as guides for the future. The agency thus can sometimes serve as arbitrator, even though its efforts are fact-finding rather than judicial. Afterwards, its report will provide an official record of its findings.

Sometimes the result of a check of suspected toxicological conditions reveals a totally unexpected answer. In a recent case, for example, two second shift welders had become ill and carbon monoxide seemed to be the cause. Tests were made early the following morning, but no carbon monoxide was found and all control devices were working satisfactorily. The industrial hygienist's report concluded with this laconic statement: "A possible solution was found when it

* Presented before the Industrial Hygiene Section of the American Public Health Association at the Eightieth Annual Meeting in Cleveland, Ohio, October 21, 1952.

was learned that the two men had cooked and eaten a bucket of clams over the heating unit."

Responsibility for acceptable industrial health, hygiene, and safety rests on the shoulders of operating management. Public agencies should be available to operating management and to its employees for advice and counsel, but responsibility for correction should remain with operating management. However, if the official agency has a record of unbiased advice from competent staffs their recommendations will soon gather the force of law.

An example comes to mind of a tragic accident in which a man was burned to death while removing accumulations of paint with a highly flammable cleaner. His clothes became saturated and he struck a spark with a protruding nail in the heel of his shoe that set fire to his clothing. The resulting burns caused his death. The plant management sought advice. Complete protective asbestos clothing with oxygen mask would provide "absolute" protection from a future accident of this sort, but it is unlikely that any industrial hygienist would recommend so extreme a remedy. Actually, a much less flammable cleaner was found, better ventilation was easily available, and the worker will wear boots. This solution is economical, safe, and more acceptable to the worker than wearing an asbestos suit. Public agencies must make recommendations that are not only technically sound, but economically sound if they are to hold the confidence of industry.

So far, much stress has been placed on competent staffs giving unbiased advice. The reason for this is that a public agency of industrial hygiene has a responsibility to labor, a responsibility to management, and a responsibility to the general public. These are equal responsibilities.

In most states industrial hygiene is part of the department of public health. In New York, Masachusetts, and Illinois, industrial hygiene is part of the Department of Labor. Industrial hygiene overlaps areas in the fields of public health, safety, and industrial relations. Note, however, that the significant thing is not to what it is attached, but that it be free to give unbiased advice.

Bearing in mind that public hygiene agencies can achieve their objectives better by giving sound technical advice in a persuasive manner, rather than by acting the role of a regulatory body, certain standards of service become of special importance. These are:

AVAILABILITY

Special care should be taken to see that when called upon for advice that it is given speedily, or the request for advice is turned down. Speed, quality, and quantity should be in proper balance. Service, however, can be overdone, so judgment should be exercised in expanding the size of the agency's staff. Perhaps a staff can be expected to operate best when it is so overloaded with requests for its services that it must use careful discrimination to choose only those projects that most need its help. Then it will not be tempted to write long reports on queries that might better be answered in a sentence or two.

UNIFORMITY

Special care should be taken to see that public agencies, state and federal, interchange information with the objective not only of keeping informed, but also of promoting uniformity of advice. The official agencies should provide or accept uniform standards. These should apply particularly to such things as threshold limits, sampling methods, and ventilation design. The current situation where the threshold limit recommended by one state may vary by several hundred per cent from those of another state is confusing. It is hard to understand, for example, why a concen-

tration of 250 ppm of alcohol is harmful in Kentucky but not in California. The threshold limit values recommended yearly by the American Conference of Governmental Industrial Hygienists is an excellent example of a step in the right direction.

ACCURACY

Special care should be taken to see that a fair, mature evaluation of conditions is made. This evaluation should be based on sufficient technical data, or on years of mellowed experience with similar problems. Industry realizes that the current state of knowledge often makes accurate evaluation impossible with the result that the industrial hygienist leans toward the safe side. This is as it should be; but the lean should be 10°, not 180°.

CLARITY

Special care should be used to make recommendations in understandable language. Industrial hygiene is a new field with terms and concepts unfamiliar to the layman who often must use the hygienist's report as a basis for action. In a recent report, for example, the average lead concentration given was 0.14 milligram per cubic meter of air. This was followed by a statement that the MAC (and this was not defined in the report as meaning Maximum Allowable Concentration) for lead was 0.15 mg. per cubic meter. Even though the lead concentration was less than the stated limit the report recommended an exhaust ventilation system.

Later, in the same report, a carbon monoxide concentration was given as 200 ppm (and this was not defined as meaning parts per million by volume). Then the report gave the maximum allowable concentration for carbon monoxide as 100 but approved the condition.

The report did not make clear why a lead concentration that appeared to be within safe limits was unsafe, whereas a carbon monoxide concentration that appeared outside of safe limits was all right. After some inquiry it developed that the lead concentration represented a continuous exposure that would probably increase in time; the carbon monoxide exposure was a very short, infrequent exposure. The conclusions and recommendations of the report were valid, but it took a skilled hygienist to interpret the findings. The best report in the world is valueless if the man who must use it cannot understand it.

PRACTICALITY

Special care should be taken to see that recommendations are sensible, practical, and economical. Industry must make a profit to survive, and unnecessarily expensive control measures can seriously hamper obtaining a fair profit. In one small industry, for example, an air-agitated chromic acid tank (not a plating tank) was producing an excessive amount of chromic acid mist. The inspector recommended an exhaust system which would have cost the owner between six and seven hundred dollars. The owner of this small business was financially hard pressed at the time and explained his predicament to the inspector. The inspector then suggested trying plastic bubbles such as are used on plating tanks. These were obtained at a cost of about twenty dollars and are giving adequate control. Control measures often involve an unexpected expense that may work a hardship on a business. Extra care should be used to see that recommendations make sense from an economic standpoint.

PALATABILITY

Special care should be taken to see that recommendations are couched in persuasive language. Much important advice will be resisted if care is not taken to be sure that the advice fits the case and that it is understood by the participants.

TACT

Special care should be taken to conduct an investigation in a manner to allay needless fears. While representatives of a public agency are working in a plant they should remember that the employees are curious and possibly suspicious. It may take only a careless word, even if said in a joking manner, to excite or worry the employees. Representatives from a public agency coming into a plant have a special responsibility to try to improve relations between the employees and their management.

BALANCE

Special care should be taken to see that the minimum unit set up has proper balance in the fields of medicine, engineering and chemistry. Later, other more specialized fields can be added such as health-physics, biostatistics, nutrition, and others. Because of the group skills required, it is desirable that the agency have all of its members located sufficiently near each other to promote close communication and cooperation.

Clearly defining areas of responsibility helps to assure that jobs which need doing are done, and that large areas are not overlooked. To this end federal and state agencies should avoid unnecessary overlap by agreeing on their relative areas of responsibility. It is recommended, for example, that federal agencies concern themselves primarily with mass studies of industries and groups; with the broad research into the pathology and toxicity of things beyond the facilities and scope of state agencies; with establishing standards for guidance of state and other agencies; with correlating the activities of different states' activities where correlation is necessary.

The state agencies should provide services for evaluating hazards; should give advice on corrective measures; and should provide a consulting service to their state industries. This service should be available to management or labor and discretion should be used in seeing that the results are given to those who properly should see them. It is not in the public interest for results to be hidden from any truly interested party.

Local agencies may be desirable in the largest cities, particularly where there are many small industries, none of which can afford industrial hygienists.

All industrial hygiene agencies can provide important liaison with other agencies in the public health field such as the Veterans Administration, Department of Agriculture, Food and Drug Administration, and others.

Competent, unbiased, public hygiene agencies that sincerely are trying to help industry provide better conditions for its workers are desirable and will receive industry's admiration and support.

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FOR OR AGAINST?

THE public health movement of today is concerned with promotion of health as well as with the prevention of disease; and with health in a psychological as well as in a physiological sense. Malnutrition and obesity are problems which the health planner must consider; and it also may not be amiss to give thought in these columns to habits of the mind—to emotional attitudes which are as important for mental health as are dietary habits for physiological health.

What we have in mind may be illustrated by considering the attitudes and the influence of two men who were walking the streets of London a century ago—two men whose influence upon your life and mine today has been and is profound. One of these men was Edwin Chadwick whose *Report on the Sanitary Condition of the Laboring Population of Great Britain* had been published in 1842. The other was Karl Marx, whose first volume of *Das Kapital* was to appear in 1867.

Both of these men were deeply moved by the tragic state of the lower economic strata of society, caught up in the horrors contingent on the Industrial Revolution. Their attitudes and the remedies they proposed were, however, very different. It cannot be claimed that Chadwick was a perfect example of good mental hygiene. He was an ardent and often tactless reformer; but in essence he was a creator, not a destroyer. He belonged to the group of great reformers, with John Howard and Lord Ashley, who were concerned with the positive goal of building a better world. Marx was a man of different mold; he was essentially a destroyer rather than a creator. He, too, dreamed of a better order to come at long last; but his real fire and enthusiasm was in his call to wipe out the existing framework of society. Chadwick was "for" something—Marx was "against" something.

Consider the influence of these two attitudes upon the world in which we live.

England and the United States followed the constructive pioneers of the Eighteenth Century. Between 1850 and 1950 we have effected a bloodless revolution which has transformed a society of ruthless exploiters into the nearest approach to a "classless society" the world has ever known, a society in which an astonishing degree of democratic freedom and economic prosperity for all has been attained. Russia, adopting the Marxian gospel of hate and destruction, has built a regime based on the ruthless power of a new privileged class of commissars, in which power (and the fear that goes with excessive power) have created an autocracy within the Soviet Union far more crushing to the soul of the individual citizen than ever was the rule of the czars.

Is there not in this chapter of history a lesson for the statesmen of today who can see that the pursuit of a positive goal—the attempt to realize a constructive ideal, the passion *for* such an ideal—is a potent force for progress, while the domination of the negative principle of resentment—the passion *against* something—leads only into the pits of destruction?

It seems that we have here an excellent example of the basic principle of mental hygiene, that hate in itself is a destructive force, while love in itself has a creative power. Alfred Tennyson characterizes the poet as "dowered with the hate of hate, the scorn of scorn, the love of love." Probably the "hate of hate" is justified—certainly for poets. We may perhaps "hate hate"; but it is not good mental hygiene to hate the hater. "Father, forgive them, for they know not what they do" is a gospel of perfection hardly attainable by the unaided human spirit; but for this we should strive. The real key word involved in Tennyson's phrase is the "love of love"—the positive creative ideal, the passion *for* something, not *against* something. If we devote our energies to love of democracy rather than to hate of communism—to the positive goal of creating a better state of global society, we shall be following the tenets of sound mental hygiene; and we shall be in the stream of emergent evolution, moving with its current toward the world of the future.

HEALTH NEEDS OF THE NATION

THE report made last December by the President's Commission on the Health Needs of the Nation, under the chairmanship of Dr. Paul B. Magnuson, was an event of major importance in the history of American public health.* Particularly notable is the fact that the 15 members of this commission, including leading physicians, public health experts, educators, and representatives of the public interest, have agreed with substantial unanimity on all major findings and recommendations.

The most obvious grounds for opposition to the findings presented should be eliminated by the fact that the commission makes no recommendations whatever for direct federal intervention in the fields of public health or medical care and entirely omits from its program even a mention of compulsory insurance or of any services directly operated from Washington except for the suggestion—not a specific recommendation—that supplementation of prepayment may be necessary for those on public assistance roles and Old Age and Survivors Insurance beneficiaries.

* Only the first of five volumes of this report has been made available as we write; but it contains the major conclusions of the commission, which may be judged on their merits.

The report lays strong emphasis on the importance of individual initiative rather than mechanization in the field of health. It says, "The individual effort of an informed person will do more for his health and that of his family than all the things which can be done for them. In the past, measures for health and maintenance demanded individual responsibility only to a limited degree. The development of pure water supplies, pasteurization of milk, and other sanitary accomplishments were achieved through social action in which the individual may have participated as a citizen but was required to take no further individual responsibility.

"Future accomplishments, however, depend to an even greater degree upon the individual's assumption of responsibility for his own health. It is the individual who must consult his physician for early care, avoid obesity and alcoholism, and drive his automobile safely. These things cannot be accomplished for him. They require both motivation and information. Personal health practices which are determined by the individual's knowledge, attitude, and decision have now become of paramount importance in gaining health. Effort by each person to improve his own health can be expected to pay great returns.

"Recognition of the significance of individual responsibility for health does not discharge the obligation of a society which is interested in the health of its citizenry. Such recognition, in fact, increases social responsibility for health. Now it becomes necessary for a society which wishes to advance the health of its citizens to adopt measures which guarantee to the individual an opportunity to make appropriate decisions in behalf of his health. Society must assure its citizens access to professional services, education concerning personal health practices, and a reasonably safe physical environment. Only then can individual responsibility for health exercised through personal action reach its full potential."

The general approach of the commission is admirably summarized in the following credo:

We believe that:

1. Access to the means for the attainment and preservation of health is a basic human right.
2. Effort of the individual himself is a vitally important factor in attaining and maintaining health.
3. The physician-patient relationship is so fundamental to health that everyone should have a personal physician.
4. The physician should have access to proper facilities and equipment, affiliation on some basis with a hospital, and the help of trained personnel in order to fulfill his part in providing comprehensive health services.
5. Comprehensive health service includes the positive promotion of health, the prevention of disease, the diagnosis and treatment of disease, the rehabilitation of the disabled—all supported by a constantly improving education of personnel and a continuous program of research.
6. Comprehensive health service is the concern of society and is best insured when all elements of society participate in providing it.
7. Responsibility for health is a joint one, with the individual citizen and local, state and federal governments each having major contributions to make toward its fuller realization.
8. The American people desire and deserve comprehensive health service of the highest quality and in our dynamic expanding economy the means can be found to provide it.
9. The same high quality of health services should be available to all people equally.
10. A health program must take into account the progress and experience of the past, the realities of the present, and must be flexible enough to cope with future changes.

To facilitate an approach to the ideals outlined above, the commission proposes a system of federal grants-in-aid to the states and to educational institutions for the development of programs to be operated on a local basis and under local direction and control. A total new federal appropriation of one billion dollars is proposed for

this purpose, representing an approximate doubling of present federal expenditure in the health field. Three-quarters of this sum—it is suggested—should be devoted to cooperation on a federal-state matching basis in the promotion of local health and medical services; special emphasis is laid on the vitally important fields of group practice and group purchase.

Other federal grants are proposed for: the promotion of research, with special emphasis on health administration and mental hygiene; assistance to schools of medicine, dentistry, nursing and public health and scholarship aids to their students; and in the development of local health departments and their sound regional coordination; the expansion of Hill-Burton grants, with special emphasis on facilities for rehabilitation, the care of chronic disease and for home care.

The commission is fully cognizant of the far-reaching challenges presented to the public health departments of the present day. The report notes that, "Public health services, like all other health resources, reflect the changing character of health needs. New problems require new techniques and modes of organization. It is as unrealistic to tackle today's health problem with a type of service developed for the problems of fifty years ago, as it would be to base modern traffic regulations on the preautomobile era.

"Health departments represent the mechanism by which the benefits of modern public health practice may be brought to all citizens. In assuming this basic health protection for the whole country, the growth of public health practice to meet the challenge of chronic disease and other new problems must likewise be encouraged. Attention should also be given to the incorporation of health departments into patterns of regionalization, particularly in their relationship to hospital services."

The commission suggests that for the execution of its proposed program there should be created a Federal Department of Health and Security; and that a permanent Federal Health Commission of from 12 to 18 members should be created which would report annually to the President and the Congress as to "the health status and health needs of the American people, including recommendations for legislation whenever this is indicated."

There is nothing political about this report; and it does not present any dogmatic blueprint which must be accepted or rejected. It is a thoughtful analysis of the health problems of our nation by a group of competent and dispassionate persons. It should receive the earnest attention of all those who have the health and welfare of the people of the United States at heart.

PESTILENCE AND FAMINE

THE Four Horsemen of the Apocalypse are accepted symbols of the malign forces which threaten the human race and they have been commonly identified as representing Death—the ultimate master of us all as individuals—and his three great ministers, War, Pestilence, and Famine.

In the long reaches of history, Pestilence has proved the most deadly of these foes, but during the past hundred years it has also proved the most vulnerable to human counterattack. So successful, indeed, has been the control of the plagues which afflict mankind, that the question has been raised whether the increasing

population following drastic reductions in death rates for epidemic diseases does not exceed the possibilities of feeding such a population and so decrease the toll of pestilence only to increase the menace of famine.

Prior to 1800 the population of Europe remained reasonably stable, but with the progress of the Industrial Revolution a marked excess of births over deaths took place, and by 1900 the population of that continent had doubled. The opening up of vast new areas of food production in the United States and Canada helped to meet the needs of the growing world populations. Today, the countries of the Near East, the Far East and the Islands of the Pacific have begun to show marked increases in population with no parallel increases in food supply. It is estimated that one acre of land is necessary for the feeding of one individual. Actually the total of the world food supply is below prewar levels, particularly in Asia. Something like one-half of the world population suffers in some degree from malnutrition.

What are the prospects of feeding the millions of men and women who are being saved from malaria and tuberculosis, cholera and plague? Can the food supplies of the world support increasing populations?

A thoughtful and balanced discussion of this problem has recently been presented by one of the ablest of world authorities in this field, F. L. McDougall, special assistant to the director-general of the Food and Agriculture Organization.[1]

The fixation of atmospheric nitrogen and the increasing possibility of supplementing diet by the addition of specific mineral salts have, to some extent, freed us from our dependence on the unaided forces of Nature; and some day new methods may well be devised for the utilization of solar energy (or even of atomic energy) which will break the chains of our slavery to chlorophyll.

Aside from such general possibilities of the future, McDougall gives us reasonable grounds for hope. Some of the opportunities for increased food supply discussed are as follows: development of new cultivable areas; increase of yield from presently cultivated areas by more scientific methods of agriculture; irrigation both for development of new areas and securing higher yield from existing areas (Mexico now plans an increase of 2,500,000 acres in this way); improvement in plant stocks (hybrid corn and cold-resistant cereals) and of animal stocks (as demonstrated for cows and sheep); by use of better fertilizer and special mineral elements; by control of plant and animal diseases and of insect pests and destructive rodents; and by protective vaccination of food animals. There are specially promising outlooks for increases in fish foods, which now supply some 2,000,000 tons of protein a year. It is estimated that this figure could be doubled.

All in all, the technological problems of feeding our world population do not appear insuperable. The social and economic problems involved are much more difficult. How can the systems of land tenure which sacrifice actual food production to the interests of a small but politically powerful landowning group be modified? How can the food producers be provided with an effective financial incentive to adopt modern scientific methods? How can the food producers and the public be educated in the application of such methods? How can the capital be provided for development of irrigation and other large-scale projects? How can the transport problems of food distribution be solved? How can exchange problems be attacked so as to favor trade between food-producing and food-consuming areas?

These are difficult questions; but the experts of the United Nations and its associated organizations (FAO, WHO, UNESCO, the World Bank, and others) are hard at work to find the answers. FAO alone has five hundred experts in the field. In such concerted international action lies the hope of the future. As Arnold

Toynbee has said, "This is the first age, since the dawn of history, in which mankind dared to believe it practicable to make the benefits of civilization available to the whole human race."

1. McDougall, F. L. *Food and Population.* International Conciliation No. 480 (Dec.), 1952. Carnegie Endowment for International Peace, 405 West 117th St., New York, N. Y.

WHO AND YOU

ASSOCIATION members will undoubtedly recall the excellent symposium on International Health held at the San Francisco meeting in 1951. Dr. Brock Chisholm and two of WHO's regional directors, Dr. Chandra Mani and Dr. Fred L. Soper, described the obstacles to progress in world health and what WHO is doing in its program to meet them. The National Citizens Committee for the World Health Organization co-sponsored this session, and Dr. Frank G. Boudreau, representing that committee, concluded the symposium with a stirring paper on Our Stake in World Health [1] in which he pointed out the obstacles here at home in the United States which stand in the way of adequate support for the work of WHO. First among these obstacles is ignorance and the public apathy which goes with it.

Take the situation as it now stands. If you stepped out on the sidewalk today, stopped a man, and asked him what the phrase "world health" means to him, he would be nonplussed. If you asked him what the letters WHO meant to him, you would probably be answered by a blank stare. UN would produce a response, possibly UNESCO, but the work of those Specialized Agencies affiliated with the UN is probably better recognized outside our country than here.

The purpose of the National Citizens Committee for WHO is to eliminate this form of illiteracy, through education to get Americans interested in helping to improve the health of people in all parts of the world and to recognize what the World Health Organization is and should be doing in this field. As the next step in its program, the committee is organizing a National Conference on World Health open to all individuals and organizations who are interested in helping to create better health conditions for the world's population.

This will be a citizens' conference to discuss problems involved in world health work, to study how WHO can be made real and familiar to Americans and how interested Americans can best express their interest in WHO. The conference will be held at the Hotel Shoreham, Washington, D. C., beginning Monday afternoon, April 6, and adjourning Wednesday afternoon, April 8. For information and hotel reservations write National Citizens Committee for WHO, 1790 Broadway, Room 806, New York 19, N. Y. Any member of the APHA will be welcome at this conference.

All of us have a duty to be well informed about WHO and its work. Our readers may be interested to know that anyone can receive the *WHO Newsletter* free of charge by writing to Mr. Harold Ballou, Public Information Officer, Western Hemisphere Regional Office, WHO, 1501 New Hampshire Avenue, Washington, D. C. More technical documents, such as the *Bulletin* of the WHO, the *Chronicle,* and special reports, and monographs, may be ordered from the Columbia University Press, International Documents Service, 2960 Broadway, New York, N. Y.

1. International Health—A Symposium. *A.J.P.H.* 41, 12:1455-1482 (Dec.), 1951.

Quotations from an Address by Dr. Brock Chisholm, Director-General of the World Health Organization at the Eightieth Annual Meeting of the American Public Health Association in Cleveland, Ohio, Thursday, October 23, 1952.

"There are many problems that are hard for us, who have come from western countries, to understand. There are many examples one might use. For instance, the problem of rehabilitation. To people in the western countries rehabilitation of injured or ill or crippled people seems to be natural and normal and economically sound, but in a country where individual production is minimum, where there is almost no difference in production between a crippled person and a healthy person, or as healthy as the people are likely to be in that particular country, it is not economically sound to undertake any expensive rehabilitation. It is cheaper just to feed such a person. The productive capacity of most of the people in the world would never be able to pay for their own upkeep and one prosthetic device, an artificial limb, at the level which is normal and expected and common in this country and in several others at this stage of development.

"And so we have to have a different attitude about rehabilitation in some parts of the world. If we take our attitudes about rehabilitation into many countries they can only be regarded as ridiculous, quite ridiculous, because they simply do not fit the stage of development of many parts of the world. And we have to know what is normal, not our normal but their normal; otherwise, we will not get our job done.

"There are in each country of the world special situations, and perhaps I might illustrate a few of them, such situations as must be understood. I cannot, of course, give an exhaustive list, only a few illustrations of the sorts of things that have to be adjusted to by people who go to any country not their own.

"Even in our own countries of the west we have sacred cows or their equivalent. There are things that natives do not see that people from outside do see. There is, for instance, the problem in the United States of America of trichinosis, which is regarded with astonishment and horror by many other people in many other countries. It may interest you to know that when travelers come to the United States from European countries their doctors warn them that under no circumstances should they eat pork of any kind because this country in that field is regarded as quite uncivilized by many other countries. This is just a fact. There is no other well-developed country which allows trichinosis among its hogs as this country does, affecting the health literally of millions of people all the time. In no other country would people be allowed to feed raw garbage to their hogs, but there is a sacred cow in this country and its name is business, and this has not been effectively approached, I understand, by the health authorities in this country up to this time. It has been dealt with, and effectively, by every other country which even approaches this country in terms of social and economic development.

"Those things need to be understood just as racial discrimination needs to be understood. This, too, is one of the sacred cows that affects work in some countries, not very many now, only a few. There are not more than 10 countries in the world where racial discrimination is serious and does reflect on the health of the people to a very great extent. This country is one of those ten or so. And this needs to be understood by foreigners who come to this country because there are delicacies in handling Americans, too, as there are delicacies in handling people from my own country or any other country, and we need to know about these things."

Clearing House on Public Health Salary Information and Personnel Needs

A SIXTH ANNUAL STATE SALARY STUDY

Continuing the series of annual studies of salaries in state health departments, the Public Health Service has published the sixth study. The facts portrayed are taken from payroll data as of August, 1952. As in the case of earlier studies, the current study was made in cooperation with the Committee on Professional Education of the American Public Health Association and the Association of State and Territorial Health Officers.

In the present study data are reported for health officers and directors of five nonmedical programs and 11 separate occupational groups. The first study included only six occupational groups; health educators were added in the second of the series, statisticians in the third, business management officers in the fourth, and dentists, other than directors, and veterinarians in the current study. Also included for the first time are salary data for health officers and nonmedical program directors, and nine occupational groups for the territories.

Although salaries for each group of directors and occupations except one increased during the past year, the increases very generally are less than they have been in former years. The exceptions among the occupational groups are for sanitary engineers, the lower limits of whose median salaries decreased between 1949 and 1950; sanitation personnel whose salaries registered no increase between 1949 and 1950; and nutritionists whose salaries increased more during the past year than in any of the earlier years. Health educators were the only group with no increase in the lower limits of the median salary interval during the past year.

Among nonmedical program directors average annual salaries of only one group, directors of public health nursing, increased more during the past year than during one of the earlier years.

During the six-year period average annual salaries of health officers and program directors increased from 32 to 46 per cent; the smallest increase was for laboratory directors, the largest for directors of public health dental services. For the six occupational groups for which figures are available for six years, the increases in the lower limits of the median salary intervals were from 25 to 75 per cent, the smallest increase being for sanitary engineers, the largest for other sanitation personnel. Table 1 shows the increases for each group during both the past year and the six-year period. The percentages for directors are based on changes in average annual salaries, those for other categories on changes in the lower limits of the median salary intervals.

Although the different bases on which percentage increases are computed may qualify the conclusions, it seems apparent that in general salaries have during the 6-year period risen more for rank and file workers than for program directors. The exceptions are laboratory workers, with a 29 per cent increase, compared to a 32 per cent increase for laboratory directors, and engineers with a 25 per cent increase, while engineering directors' average annual salaries increased 37 per cent. On the other hand, the lower limits of the median salary levels for sanitation personnel other than engineers have risen 75 per cent during the 6 years, reflecting possibly two factors, the relatively low salaries paid 6 years ago and the increasing professional

TABLE 1

	Number Reported 1952	*Per cent Increase in Salaries*	
		1951–1952	*1947–1952*
Total	3,913	–	–
Medical			
Health Officers	44	4	43
Other	378	5	52
Dental			
Directors	38	3	46
Other	41	–	–
Sanitation Personnel			
Directors	48	6	37
Other Engineers	533	4	25
Other Personnel	528	11	75
Public Health Nursing			
Directors	47	5	34
Consultant and Supervisory	366	5	42
Laboratory Workers			
Directors	43	5	32
Other Professional	1,246	6	29
Statisticians			
Directors	43	6	34
Other	146	5	25*
Health Educators	197	–	24†
Nutritionists	116	11	40
Business Management Officers	68	11	–
Veterinarians	31	–	–

* 1949–1952
† 1948–1952

training of sanitarians as evidenced by the new courses for such workers.

The current report includes 3,913 workers in the 48 state health departments and 156 in the 4 territories. Workers in the 48 states number almost exactly what they did in 1951, even though dentists and veterinarians have been added to groups for which salaries were reported. Substantial decreases in number of workers were reported for only 2 groups, sanitation personnel other than directors or engineers, and laboratory workers other than directors—14 and 10 per cent respectively. Nutritionists and business management officers decreased by 7 per cent. No occupational groups increased substantially in numbers, except engineers other than directors, 5 per cent, medical personnel other than health officers, 6 per cent, and statisticians 12 per cent.

The data of the study are shown separately by states and by Federal Security Regions. New York and California are at the top of the salary ladder for each category except sanitation personnel other than engineers. But very few states show such consistency in relative rank of salaries paid different types of workers. Iowa is at the bottom of the list in salary of health officer and director of dental services, but the salaries of its director of sanitary engineering and of the director of public health nursing are in the third quartile. For another example, Delaware is among the first eight in health officer salary, in the third quartile in salaries of sanitary engineering and public health laboratory directors, and at the bottom of the list in salary of vital statistics directors. What such variations tell about the extent and quality of the programs carried on in the state, and how much they are related to differences in experience and training of the particular persons holding the jobs are not evident in the analysis. This indicates a direction in which future studies might be made more useful to those who seek guidance from them in setting state salary scales. For such purposes, classification of salary scales by training or length of service of the incumbent might well be indicated.

Of the 378 medical personnel exclusive of state health officers, only 9 persons in 4 states, 6 in Pennsylvania, one each in Rhode Island, Tennessee, and Ohio received less than $6,000. On the other hand, more than a fourth scattered throughout 20 states received $10,000 or more.

Of the 156 workers in the territories whose salaries were reported, 25, 53, 62, and 16 were in Alaska, Hawaii, Puerto Rico, and the Virgin Islands, respectively. Laboratory workers were the most numerous, 38 workers; consultant

and supervisory nurses followed with 31, and medical personnel totaled 25. Except for the Virgin Islands, salaries generally speaking were somewhat higher than in the states. For example, 13 of the 20 medical personnel (not including those in the Virgin Islands) received $9,000 or more, whereas stateside, fewer than half reached this figure. Further, all but one of the 13 received $9,400 or more.

WASHINGTON NEEDS A HEALTH OFFICER

For four years the assistant director of the Washington State Health Department, Dr. A. J. Kahl, has been acting director of the department. His request to Governor Langlie to be relieved of that responsibility and continue as assistant director only, highlights the dilemma of this and a number of other states. The only qualification for the director of the department is that he have an M. D. degree. Appointed by the governor and serving at his pleasure, he receives an annual salary of $8,500. Medical officers in the State Health Department receive from $10,000 to $10,800 and have tenure. Trained local public health officers receive from $9,000 to $12,000. Says the *News Bulletin* of the Washington State Health Council, "Some difficulty is expected in filling the post with a qualified man."

Apropos of this situation, the Washington Public Health Association at its 1952 convention passed a resolution asking for legislation that would require the director of the State Health Department to be licensed to practice in the state, have a graduate degree in public health, and five years' experience in a state or local health department, and that his salary be commensurate with the responsibilities of the post.

ILLINOIS PUBLIC HEALTH SALARIES

The Division of Local Health Services of the Illinois State Department of Health has published the results of a study of salaries as of July, 1952, in 24 local health departments of the state—14 county and 10 city, excluding Chicago. A total of 411 full-time workers are included, 44 per cent of whom are public health nurses. Nearly one-fifth are sanitary engineers and sanitarians, and more than a fifth are clerks. No salaries are reported for medical personnel apart from health officers, nor for laboratory workers. Average monthly and annual salaries are shown, as well as maximum and minimum salaries for each of the 15 classifications of positions. The one-page statistical summary of this study may be secured from Dr. Charles F. Sutton, Deputy Director, Division of Local Health Services, Illinois Department of Public Health, Springfield, Ill.

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

Building America's Health: Findings and Recommendations. *Vol. 1. A Report to the President, by the President's Commission on the Health Needs of the Nation. Washington, D. C.: Superintendent of Documents, Gov. Ptg. Office,* 1952. 80 pp. Price, 50 cents.

This is the first of five volumes coming from the commission appointed by the President of the United States on December 29, 1951, "to make a critical study of our total health requirements, both immediate and long range (and to) recommend courses of action to meet these needs."

Paul B. Magnuson, M.D., chairman of the commission, indicates that the 15 members agreed at the outset insofar as was humanly possible to lay aside any preconceived bias and to approach the huge task with open minds. They agreed to reach no conclusion until they had heard all the evidence which could be assembled in the time available and to scour the country to find the experts and unearth the studies which would supply basic data. They would listen to all points of view on any question, making a special effort to hear members of organizations which had expressly criticized the formation of the commission. They further agreed to eliminate political considerations from the deliberations and recommendations. The commission believes that "this report lays the groundwork for men of good will to unite in a common effort to improve the people's health, the backbone of our democratic strength in a free world."

The present volume of *Findings and Recommendations* is the first of five. Volumes II and III will set forth some of the background information on which the *Findings and Recommendations* were made. Volume IV is concerned with financing a health program for America, and Volume V consists of excerpts from regional public hearings on health.

Any reviewer of this volume will find it difficult to compress in a short space a comprehensive analysis of this interesting and provocative document. This review can serve only to acquaint the reader with the contents of the volume and to urge him to read it himself. These 80 pages deserve thoughtful review by every professional public health worker in the United States. The document is important in itself and undoubtedly will prove a milestone for the future.

Chapters in the volume describe the American people and their health; health personnel; health facilities; organization of health services; medical research; financing personal health services; a department of health and security; special aspects of health service; a proposal for a federal health commission, and, finally, the estimated federal share of total costs of the recommendations. Persons who do not have access to the volume itself will find an excellent extensive digest in the issue of the *New York Times* for December 19, 1952.

The *American Journal of Public Health* treats the report editorially in this issue. The annual meeting of the National Health Council will center around the report. A firsthand acquaintance with the recommendations and the report is essential in order that the value from this large effort may be fully achieved. In the meantime it is a

pleasure to congratulate the chairman and the members of the commission, as well as the staff, for a searching and courageous document.

REGINALD M. ATWATER

Malaria: Basic Principles Briefly Stated—*By Paul F. Russell. Oxford, England: Blackwell Scientific Publications,* 1952. 210 pp. 64 text, figures and 3 color plates. Price, 35*s*. (Springfield, Ill.: Thomas. Price, $7.75).

"All in all, malaria still ranks high in the list of man's afflictions. It is dangerous to assume, as too many do, that DDT has solved the problem . . ." These words, which deserve particular consideration at the present time, are found in the preface of this small, clear and complete book on the most dreaded tropical disease by a malariologist of world renown.

After an introduction and five chapters, the book carries a bibliography of nearly 200 titles and an index. The chapter devoted to Plasmodia is a compact treatment of the malaria parasites, with three very distinct color plates, the new nomenclature of the life-cycle stages, and an illustrative chart of the probable chain of events in the life of the parasite. The chapter on pathology, clinical course, and therapy, adequately summarizing the field, has a suggestive diagram on some relationships between the malaria parasite and host which shows the newer knowledge on the subject, and gives up to date information on the new drugs. The chapter on anophelines presents the required details, includes three tables with lists of the most important vectors and useful characteristics of the principal anophelines. In the chapter on epidemiology, after an adequate treatment of the subject, helpful advice is presented on how to conduct a malaria survey. The longest chapter is the final one, devoted to prevention and control. The most important control measures are concisely described, and a good number of photographs illustrate the details. The problems related to residual insecticides are fully treated. At the end of this chapter is found the following important statement: "It is no longer logical to delay malaria control on account of cost, for the facts now indicate that no country, however underdeveloped, can afford not to control malaria by modern, cheap and effective methods."

Owing to its size and adequate treatment of the subject, this book should not only be read by specialists, but also by public health administrators and other leaders in the health field of those countries where malaria is an important problem, and also by those in charge of international health programs who now, more than ever, need properly to understand available knowledge of this disease.

ARNOLDO GABALDON

Corporation Giving—*By F. Emerson Andrews. New York: Russell Sage Foundation,* 1952. 361 pp. Price, $4.50.

Corporation Giving is a clear, readable, businesslike report on the principles and policies of corporation giving. Part I is devoted to "Corporate Giving," its growth and direction; Part II to "The Beneficiaries," in terms of community need and existing resources and the ways in which corporations are presently giving support; Part III to "Legal and Taxation Factors." The author has included many tables and maps showing such things as who gives and how much, what per cent of the total goes to welfare agencies, health agencies, education, research, and religious agencies; and a comparison of contributions and profits of major industrial groups. He has also included all the permissive legislation affecting such contributions in each of the states and territories.

Corporation Giving should be particularly useful to any organization seeking funds before June 30, 1953, when the present excess profits tax ends. It should

be useful to every voluntary agency, big or small, that is considering asking business support for anything from a playground to a national disaster.

HAZEL CORBIN

Porter and Fenton's Public Health Law in Question and Answer—*By J. Greenwood Wilson (5th ed.). London: H. K. Lewis,* 1952. 342 pp. Price, 27s 6d.

This is the fifth edition of an English text which was originally published in 1910 as a much smaller book under the title, *Sanitary Law.* It presents in 410 questions and answers all of the statutory law and the subordinate legislation of England and Wales pertaining to public health and housing, including the National Health Service Acts of 1946–1949 and the National Insurance Acts of 1946 and 1951. There are, however, no citations to the court decisions which are as much a part of the law as is legislation. This book, representing a vast amount of labor by the author and his legal assistant, J. Hindle Fisher, always has been and is of great value to those preparing for the diplomas and certificates required of medical officers and health and sanitary inspectors in England. It also contains information essential to those in administrative positions in that country. The book is well printed and has a good index. It also has a table of statutes referred to, 10 pages in length, and a list of the abbreviations with which the British are always so enamored, and which are copiously, and quite properly, used in the text. JAMES A. TOBEY

The Inspection of Food—*By Horace Thornton. Baltimore, Md.: Williams and Wilkins,* 1952. 223 pp. Price, $3.00.

This is a compilation of several hundred definitions and explanation of terms commonly used in connection with various phases of food inspection. It includes ante-mortem and post-mortem inspection, anatomy of food animals, milk and milk products, fish and shellfish, poultry, eggs and other foods, with a brief explanation of refrigeration and other methods of preservation. It also includes an explanation of some aspects of food poisoning. The coverage of all these subjects and details in this small volume is of necessity brief and simple. The practices described are those now in use in England and some of the English laws on the subject are quoted.

This handbook may serve two purposes to those concerned with food inspection in the United States. First, it may provide a clue as to comparable British practice in connection with the above mentioned topics. Secondly, it is a good model for anyone wishing to prepare an outline of a teaching course of food inspection. JEROME TRICHTER

Manual for the Operation of Cerebral Palsy School Units in New York City. *Bureau for Handicapped Children, New York: City Department of Health,* July, 1952. Mimeographed, 24 pp.

This is a methodical summary in outline form of all that goes into planning a complete unit for school experience for cerebral palsied children who are mentally normal, but physically too handicapped to be placed in regular school or even in so-called "orthopedic rooms" of the New York City school system.

These units provide for the introduction of various medical services into a school setting, so that needed therapies, such as physical, occupational and speech, do not so fill the child's day that no time is left for educational and recreational experience.

The manual lists needs for physical plant, personnel (with qualifications and duties), and equipment; and in a minimum of space gives a very good idea of procedures and relationships, both intra and extramural. While this manual pic-

tures an elaborate organization, the outline will provide many good ideas for similar units contemplated by administrators of school and health organizations, even with more limited resources.

FLORENCE A. BROWNE

Viral and Rickettsial Infections of Man—*Edited by Thomas M. Rivers (2nd ed.). Philadelphia, Pa.: Lippincott,* 1952. 680 pp. Price, $7.50.

Editor Thomas Rivers and his all-American team of collaborators have revised and strengthened *Viral and Rickettsial Infections of Man* in this, its second edition. Several new chapters have been added and important facts and information included in the first edition have been brought up to date.

From the opening chapter on the General Aspects of Viral and Richettsial Infections by Editor Rivers, through Chapter 9 on Diagnosis, by Sabin, Horsfall, Meyer, Scott, and Snyder, the basic procedures used in investigations are clearly described. Included are discussions of Chemical and Physical Procedures by Stanley and Lauffer; Serologic Reactions, by Smadel; Hemagglutination, by Hirst; Chick Embryo Technics, by Buddingh; Tissue Culture, by Enders; Epidemiology, by Maxcy; and Interference between Animal Viruses, by Schlesinger. These procedural discussions are in sufficient detail to be of value as a laboratory manual, yet the general principles have not been lost in a maze of detail.

From Chapter 10 on Bacteriophages, through Chapter 39 on Infections of Minor Importance, the specific virus or rickettsia and the infections they cause are thoroughly described. Each of them, when possible, is discussed under (a) Introduction, (b) History, (c) Clinical Picture, (d) Pathologic Picture, (e) Experimental Infection; Host Range, (f) Etiology, (g) Diagnosis, (h) Treatment, (i) Epidemiology, and (j) Control Measures. Thus, in each chapter, written by an outstanding authority, appears in concise form the information of interest not only to the investigator but also to the health officer and the practicing physician.

Extensive references appear at the end of each chapter and are consolidated in the back of the volume under (a) Bibliographic Index and (b) Subject Index. The volume is well bound and excellently printed. The 90 illustrations, including seven color plates, are clear and well titled. Finally, due credit should be given to the National Foundation for Infantile Paralysis, as Editor Rivers says in his preface, for "financial aid for the preparation and publication of the volume so that its price should not be a factor limiting the number of people who read it."

NORMAN TOPPING

Forensic Psychiatry—*By Henry A. Davidson. New York: Ronald Press,* 1952. 398 pp. Price, $8.00.

This volume is a useful guide for those called upon to give expert testimony before the courts. Although written primarily for psychiatrists and by a psychiatrist, the viewpoint is broad and distinctly helpful to health officers and other health department staff persons who must go to court. It will be especially useful to those health departments which are made responsible for the custody of mentally disturbed persons before commitment. Useful chapters include those on appraisal of the sex offender and the medical legal aspects of alcoholism.

Few physicians are properly aware when they first go to court of the difference between being an ordinary witness and an expert witness. They can profit greatly by the section on the tactics of testimony, with down to earth suggestions as to how to handle the problems that arise. Included are a legal lexicon for doctors and a psychiatric glossary for lawyers. The book is recommended.

REGINALD M. ATWATER

This Is Your World—*By Harry A. Wilmer. Springfield, Ill.: Thomas,* 1952. 165 pp. Price, $5.50.

Admirers of *Huber the Tuber* will look forward with pleasurable anticipation to Dr. Harry A. Wilmer's new book. They will not be disappointed. *This Is Your World* is a valuable contribution to the tuberculosis field. As a psychiatrist, who has had a successful bout with tuberculosis, Dr. Wilmer is primarily concerned with the psychological factors influencing the course of the disease. A search through the literature convinced him that few publications on this theme were available. He, therefore, set himself the task.

The book opens with a plea for the treatment of the whole man. Rest is of little avail to the patient with serious psychological disturbances whose "bed is a gymnasium." If the physician and tuberculosis worker are to be successful, they must deal with the "problem of man chronically ill, struck down and bewildered, segregated by society, asked to give up his independence, his freedom, his responsibility to his family."

Dr. Wilmer has found group therapy a valuable tool and because he realized that the psychiatrist is not available in the average sanatorium much of the book is devoted to technics in group therapy which he feels can be used by members of other disciplines. Sample discussions to be used with such groups are produced on records and can be secured separately. Because he believes problems of adjustment to tuberculosis have parallels in the problems of childhood, he presents 16 dialogues each pointing up a childhood conflict situation which can be used as a springboard for the discussion of a similar problem confronting patients.

The title of the book is taken from a beautifully written "Ballad," a poem in the vein of James Joyce, in which the patient and the doctor, too, let the reader in on their intimate thoughts. The volume has been illustrated by the author in his own inimitable style.

Workers with tuberculosis patients will find *This Is Your World* a helpful manual pointing out not only what to do but how to do it.

FRANCES H. BARBOUR

Woman at Work: The Autobiography of Mary Anderson, as Told to Mary N. Winslow. *Minneapolis, Minn.: University of Minnesota Press,* 1951. 259 pp. Price, $3.50.

Not only is this the story of a woman whose life was devoted to the betterment of working conditions, but it is also a story directly in the tradition of the United States. Mary Anderson came to this country as a Swedish immigrant at 16, was a domestic worker, a factory hand in the milieu of the early twentieth century, and helped to organize the garment, shoe, and other industries in the days before the right to organize was accepted as an inherent right of labor.

Mary Anderson was in on the organization of the Women's Bureau in the U. S. Department of Labor and was its director for 25 years before her retirement in 1945. In that time she and the bureau had a profound effect upon the health, wages, working conditions, and status of working women in the United States, to say nothing of Miss Anderson's influence upon the problems of working women in many parts of the world. It is a story simply told; its drama is in what happened. *Woman at Work* is a vital part of the labor history of this country. MARTHA LUGINBUHL

Personal and Community Health—*By C. E. Turner (9th ed.). St. Louis, Mo.: Mosby,* 1952. 659 pp. Price, $4.50.

The ninth edition of *Personal and Community Health* brings up to date material that is of considerable use for college courses in hygiene. In addition to the purpose stated in the preface, it

may well serve as reference in high school libraries for teachers who need to be familiar with the newer knowledges that come from laboratories and clinical research.

The material is well organized, one unit leading into the next, and the subject matter is presented simply. The glossary will help with understanding. Students and teachers will appreciate the official report on common communicable diseases of the American Public Health Association which appears as an appendix.

This is one more good contribution to health education made by Dr. Turner.

MARY P. CONNOLLY

Cancer Control. A Manual for Public Health Officers. *National Cancer Institute, Public Health Service, Federal Security Agency, and the New York State Department of Health. Albany, N. Y.: State Department of Health,* 1952. 90 pp.

The need for an authoritative treatise on what constitutes the public health aspect of cancer control has long been apparent. This booklet suggests a series of steps for developing a community cancer control program. While intended primarily for the local health officer, it can be read with profit by all health personnel, practicing physicians, nurses, and others interested in the subject. The basic elements of a control program are listed in what appears to be their degree of importance: professional education; public education; case reporting and records; prevention; case finding; and cancer care services. All present activities in cancer control are described, and an extensive bibliography is included.

The appendix lists organizations interested in cancer control, together with the role of the various agencies in a local program. Each activity that has been incorporated in some cancer control program has been discussed, but unfortunately no distinction has been made between public health and nonpublic health cancer control activities. Despite this deficiency, the booklet is the best treatise on the subject yet published.

HERBERT L. LOMBARD

Handbook of Tropical Dermatology and Medical Mycology—*Edited by R. D. G. Ph. Simons. New York: Elsevier Press,* 1952. 813 pp. Price, $15.00.

This volume purports to be "a concise and comprehensive handbook covering every tropical skin affection with a completeness never before achieved in a single work, written by a team of eighty medical specialists from all parts of the world."

In the opinion of the reviewer, this ambitious goal has been achieved with credit.

Many a traveler through the tropics must have been impressed by the number of skin diseases which he has seen. Some of these which have tropical prevalence and which are well described in this volume include syphilis, bejel, yaws, pinta, cutaneous leishmaniasis, tropical ulcer, leprosy, granuloma venereum, the rickettsioses, bartonellosis, and variola.

The authors are undoubtedly well qualified, though most of them are European rather than American. The text is concise and practical. The illustrations are excellent. The volume is highly recommended.

REGINALD M. ATWATER

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

BACK DOWN THE RIDGE. WHAT HAPPENS TO THE MEN WHO GET "CLOBBERED" IN KOREA. W. L. White. New York: Harcourt, Brace, 1953. 182 pp. Price, $3.00.

CHILDREN IN PLAY THERAPY. Clark E. Moustakas. New York: McGraw-Hill, 1953. 218 pp. Price, $4.50.

CLINICAL OBSTETRICS. Edited by Clifford B. Lull and Robert A. Kimbrough. Philadelphia, Pa.: Lippincott, 1953. 732 pp. Price, $10.00.

COLLECTED PAPERS OF SPEAKERS APPEARING ON THE PROGRAM OF THE ADMINISTRATIVE SECTION—ANNUAL CONFERENCE, May 26–28, 1952. Columbus, Ohio: Ohio Public Health Association. 42 pp.

COLLEGIATE EDUCATION FOR NURSING. Margaret Bridgman. New York: Russell Sage Foundation, 1953. 205 pp. Price, $2.50.

DAIRY ENGINEERING. Arthur W. Farrall. (2nd ed.). New York: Wiley, 1953. 477 pp. Price, $6.00.

DENTAL REMEDIES (18th ed.). Chicago, Ill.: American Dental Association, 1953. 208 pp. Price, $2.00.

HEALTH AND FITNESS. Florence L. Meredith, Leslie W. Irwin, and Wesley M. Staton. (2nd ed.). Boston, Mass.: Heath, 1953. 339 pp. Price, $3.20.

INTRAMURAL SPORTS, THE ORGANIZATION AND ADMINISTRATION OF. Louis E. Means. (2nd ed.). St. Louis, Mo.: Mosby, 1952. 466 pp. Price, $5.75.

THE JOY OF DANCING. Charlotte Hess. New York: Charlotte Hess, 810 Carnegie Hall, 1953. 108 pp. Price, $5.00.

MICROBIOLOGICAL ASSAY OF THE VITAMIN B-COMPLEX AND AMINO ACIDS. E. C. Barton-Wright. New York: Pitman, 1952. 179 pp. Price, $4.00.

NEOMYCIN. Selman A. Waksman. New Brunswick, N. J.: Rutgers University Press, 1953. 219 pp. Price, $4.00.

OBSTETRICS, NURSES HANDBOOK OF. Louise Zabriskie and N. J. Eastman. (9th ed.). Philadelphia: Lippincott, 1952. 695 pp. Price, $4.75.

OUR COMMON NEUROSIS. Notes on a Group Experiment by Charles B. Thompson and Alfreda P. Sill. New York: Exposition Press, 1953. 210 pp. Price, $3.50.

POLIOMYELITIS. Papers and Discussions Presented at the Second International Poliomyelitis Conference. Compiled and edited for the International Poliomyelitis Congress. Philadelphia, Pa.: Lippincott, 1952. 555 pp. Price, $7.50.

PUBLIC HEALTH EDUCATION. ITS TOOLS AND PROCEDURES. H. E. Kleinschmidt and Savel Zimand. New York: Macmillan, 1953. 302 pp. Price, $4.50.

PHANTASY IN CHILDHOOD. Audrey Davidson and Judith Fay. New York: Philosophical Library, 1953. 185 pp. Price, $4.75.

PUBLICATIONS AND ADDRESSES 1903–1952. Louis I. Dublin. New York: Metropolitan Life Insurance Company Statistical Bureau, 1952. 50 pp. Free.

PROCEEDINGS OF THE NATIONAL CONFERENCE ON PREVENTIVE ASPECTS OF CHRONIC DISEASE. CHICAGO, ILL., MARCH 12–14, 1953. Sponsored by the Commission on Chronic Illness, National Health Council, and the U. S. Public Health Service. Raleigh, N. C.: Health Publications Institute, 1953. 311 pp. Price, $2.50 paper; $3.50 cloth.

REPORT ON THE INVESTIGATION OF LEACHING OF ASH DUMPS. State Water Pollution Control Board. Sacramento, Calif.: Documents Section, State Printing Division, 1952. 100 pp. Price, $1.00.

SIR EDWIN CHADWICK, THE LIFE AND TIMES OF. S. E. Finer. New York: The British Book Centre, 1953. 555 pp. Price, $9.00.

USE OF ANTIBIOTICS IN TROPICAL DISEASES. Annals, Vol. 55, Article 6. H. W. Brown, *et al.* New York: New York Academy of Sciences, 1952. 318 pp. Price, $4.00.

VITAMIN DIGEST. Guy W. Clark. Springfield, Ill.: Thomas, 1952. 254 pp. Price, $6.50.

WATER QUALITY CRITERIA. State Water Pollution Control Board. Sacramento, Calif.: Documents Section, State Printing Division, 1952. 512 pp. Price, $3.00.

WHOM WE SHALL WELCOME. The President's Commission on Immigration and Naturalization. Washington, D. C.: Gov. Ptg. Office, 1953. 319 pp. Price, $.75, paper cover.

YOUR HEALTH, SIR! Miriam Lincoln. New York: Harper, 1953. 211 pp. Price, $2.75.

Public Health in Foreign Periodicals

GEORGE ROSEN, M.D., PH.D., F.A.P.H.A.

NOTE: This is the second of a series of three columns devoted to Asian countries. The third and concluding column of this series will appear shortly. The first column appeared in the December, 1952, issue of the *Journal*.

THE impact of Western civilization, in particular its industrial system, on India has given rise to major social and economic problems with inevitable repercussions in the health field. India is a vast country, and while a major part of its population is still rural, the industrial workers are increasing rapidly in numbers and importance. This trend is reflected in the attention given to the health problems of such occupational groups.

VENEREAL DISEASE IN THE INDUSTRIAL WORKER

Rao and Ganguli carried out a medicosocial study of patients with venereal diseases who came from the industrial population of Calcutta.[1] Five hundred patients at a Government Venereal Disease Clinic were interviewed. Of these, 202 were industrial workers of various kinds, while 298 were members of nonindustrial groups. The largest number of patients in the latter category were 121 small businessmen. About 90 per cent of the workers, married and unmarried, contracted the disease from prostitutes. Knowledge concerning venereal disease is practically nonexistent among the workers, so that a major need in a program of venereal disease control is the systematic dissemination of information concerning venereal infection and its consequences, as well as general health guidance. However, the authors are aware that education alone is not enough. This activity must be a part of a larger program to combat infection at the source, and to remove or alleviate the social causes responsible for the problem. In line with these ideas it is proposed that workers be assured they will not be discharged for contracting the infection if proper treatment is started. This should help to get treatment started early. Another important step is case finding and treatment of contacts. Treatment of prostitutes and regulation or abolition of brothels is recommended. Restriction of prostitution must be accompanied by improvements in the living conditions of workers. As long as the worker has to live away from his family, he is more likely to resort to the brothel. For this reason the importance of industrial housing is stressed.

HEALTH AND WELFARE OF THE INDUSTRIAL WORKER

The general problem of health and welfare among industrial workers in India is well discussed by M. V. Moorthy.[2] Industrial workers, proper, number hardly five million—a very small proportion of a total population of nearly 360 million. Drawn overwhelmingly from rural communities, it is difficult for the workers to adjust to the complex factory and to the surrounding urban environment. Moorthy points out that any health and welfare program must aim to adjust the worker to the factory and to the urban environment. Adjustment refers to physical, mental, and emotional balance between

the individual and the technological situations that affect him within and outside of the place of work.

The most significant legislative enactment in this area is the Indian Factories Act (1948) which prescribes specific provisions for the improvement of working conditions. At present, the general picture as it concerns industrial workers is still quite dark. Nevertheless, there are a few industrial enterprises under Indian as well as foreign management that maintain relatively good working conditions. They have satisfactory canteens, crèches, and medical services. In general, however, their influence on the situation is negligible. Different state governments carry on health and welfare programs for workers and their families. At present, Bombay State operates 50 centers, Uttar-Pradesh 33, West Bengal 18, Saurashtra 19, Hyderabad 2, Mysore 2, and Travancore-Cochin 3. While their programs differ in detail, these centers generally provide medical care, recreation, educational and library facilities, and welfare activities for women and children.

ORGANIZATION OF INDUSTRIAL CANTEENS

The Indian Factories Act (1948) makes it obligatory for management to provide canteen services in industrial establishments employing more than 250 workers.[3] This provision has stimulated the development of canteens. Rao discusses some of the problems involved in the organization of such facilities. In addition to structural problems, it is worth noting some of the other problems, since they point up the absolute need for accompanying educational programs, which the author recognizes. For example, he comments that he has yet to see anywhere in India an industrial canteen where every worker is provided with cutlery. Eating with hands is the commonest practice, so that the problem of handwashing is very important. Similarly, Rao points out that even when towels are provided, they are sometimes misused, for example, to blow the nose. Again, in discussing eating utensils he refers to the use of banana leaves or other leaves in place of crockery, and comments that while this may be useful in some places in South India, it is not to be encouraged. Then he calls attention to the problem of segregation, indicating that there should be no separate enclosures, either for men or women, Hindus or Moslems, workers or supervisors. This article illustrates very clearly some of the social and cultural problems involved in the early stages of the industrialization of a rural population.

NUTRITIONAL DEFICIENCIES OF SOUTH INDIAN DIETS

The significance of nutrition for health and welfare has been recognized. What is necessary at present is to see how nutrition may be improved. Mrs. Devadas has surveyed South Indian diets with this goal in mind.[4] The results show that the diet of the South Indian falls short of the normal requirements and is not well balanced. The majority of the families surveyed belong to the poorer classes. Their daily diet is built around rice, except in Travancore where tapioca is included, and in several other areas, where some other millet, like ragi, cholam or cambu is also consumed. A considerable number of these rice eaters are impoverished and live in a suboptimal state of nutrition. As a result the general level of health is low, as indicated by high mortality rates, a short life span, high disease prevalence, and low working capacity.

The middle class diets differ from those of the poorer classes, chiefly in containing more vegetables, fruits, and milk products, as well as a smaller amount of cereals. Diets of nonvegetarian middle-class families include a relatively large quantity of fish, meat, and eggs. The most important nutri-

tional difference between the diets of the poor and the well-to-do is largely in the greater quantity of dairy products consumed by the latter. As income rises there is a considerable rise in the consumption of noncereal foods, chiefly the protective foods (milk, fruit, vegetables). Clearly, one element toward improving the situation is to increase the income of the poorer families. At the same time, nutrition education is essential to guide these changes. Enrichment and fortification of foods must also be considered. Furthermore, the marine resources of coastal South India should be tapped to provide edible fish. Other suggestions offered by Mrs. Devadas include improvement in the efficiency of agriculture and in food technology, the encouragement of kitchen gardens and the possibility of developing poultry farming to augment the income of rural families.

TUBERCULOSIS IN CEYLON

India is not alone in having to deal with major health problems. Ponnapalam, discussing the tuberculosis situation in Ceylon in 1950, estimated that there were at least 70,000 cases of tuberculosis on the island.[5] At the same time there were only about 1,500 beds available for hospitalization. This means that there is a very large number of persons suffering from tuberculosis who are at present under no control. Other factors contributing to this situation are the lack of diagnostic facilities, the reluctance of indigenous practitioners to report cases of tuberculosis, and finally, the widely prevalent tendency to conceal cases of the disease. Knowledge concerning the dimensions of the problem is lacking in many respects. The first tuberculosis survey in Ceylon was carried out in Kotte in 1944–1945. Furthermore, there are only four hospitals for the treatment of tuberculous patients. Ponnapalam proposes that the problem be handled through health education carried out by sanitary inspectors, isolation of cases at home with proper precautions, examination of contacts using tuberculin testing, and x-ray examination of all positive reactors. Another method proposed is mass radiography. At this time there is one mobile mass x-ray unit in Ceylon. Finally, it is proposed to extend the use of BCG immunization.

ANNUAL TUBERCULIN CONVERSION IN PEKING

Information on some aspects of tuberculosis in Peking is provided by Ju-sheng Ts'ai in a report on annual tuberculin conversions from 1937 to 1948.[6] During this period tuberculin tests were carried out annually in various secondary and primary schools of the First Health District in Peking, and every six months among infants and preschool children who visited the Well Baby Clinic. From 1937 to 1948, of 3,806 person-years under observation, 803 converted subsequently to a positive reaction as a result of spontaneous infection. Thus, the over-all annual tuberculin conversion rate is 21.1 per cent. The annual conversion is lowest under two years of age (13.8 per cent), increasing regularly with age. The highest rate is for the age group 17–18 (36.6 per cent). There is no significant sex difference below the age of 12, but a significant sex difference is observed at the age of 14, when the conversion rate for the male is higher than for the female.

Among 803 tuberculin convertors, 758 were examined radiologically immediately after the positive reaction was discovered. Eighty-two were found to have pulmonary lesions. The attack rate is highest in the age group 1–2 (20.2 per cent), lowest at ages 10–11 (6.6 per cent), and then it rises again. The general trend corresponds fairly well to the tuberculosis mortality curve in Peking.

In discussing the findings, the author

points out that under two years children are restricted to the household, so that they get heavy and repeated infections or none at all, hence the high attack rate as compared to the low conversion rate. After the third year of life the attack rate decreases, and it is reasonable to believe that this is due to the fact that the children run about more freely outside the home, with a greater chance of acquiring a more casual infection. This results in a lower attack rate, although the conversion rate is greater than in infancy.

EPIDEMIC KERATO-CONJUNCTIVITIS IN PEKING

Chang and Chang report an outbreak of epidemic kerato-conjunctivitis which occurred in Peking during 1950 and 1951.[7] Apparently this is the first epidemic to be reported from this locality. It began in May, 1950, increasing to September, 1950, and reached its peak in March and April of the following year. More males were affected than females. Altogether there were 101 cases; about half (50 cases) were in the 20–30 age group. In the majority of cases both eyes were involved and the disease was associated with preauricular adenopathy. Seventy-two per cent of the cases developed superficial punctate keratitis. No inclusion bodies could be demonstrated in the conjunctival scrapings. Except for the favorable effect of convalescent blood, treatment with various drugs given locally or systemically was not satisfactory.

FAVISM IN WEST CHINA

Favism, a disease characterized by acute hemolytic anemia as a result of sensitization to the broad bean, *Vicia faba*, has been described in various parts of the world—notably in Southern Europe, the Mediterranean area, and the United States. Swun-Deh Du reports eight cases of acute hemolytic anemia indicating the existence of this condition in West China.[8] Although favism had not previously been reported as occurring in China, farmers and practitioners of traditional medicine know a condition called *hu tou huang*. This is said to be a yellow discoloration associated with the eating of the broad bean. Possibly this refers to favism. In the cases reported by Swun-Deh Du, each had a history of having eaten broad beans. Furthermore, the cases occurred in April and May when the bean ripens.

MALARIA ON HAINAN ISLAND

In 1951, a preliminary malaria survey was carried out in 16 representative villages of national minority groups of the First Administrative Section in Pai-Sha Hsien, Hainan Island. A similar survey was likewise carried out in Nodoa Chin which is inhabited by Han-Chinese.

Of 552 persons examined in Pai-Sha Hsien, 328 children showed a splenic index of 89.9 and a parasite index of 39, [illegible] adults had a splenic index of 32.6 and a parasite index of 5.5, and 43 school children and teachers showed a splenic index of 72.1 and a parasite index of 14. The average splenic index of 552 persons examined was 69.7 and their average parasite index was 26.1. In Nodoa Chin, 302 Han-Chinese children were examined; their splenic index was 11 and their parasite index was one.

The malaria parasites were found in the peripheral blood of children in the following percentages: *Plasmodium vivax* 57.7, *P. falciparum* 41.4, and *P. malariae* 0.8 per cent. Among the adults, *P. vivax* was 70 per cent and *P. falciparum* 30 per cent.

Mosquitoes were collected from human dwellings in Pai-Sha Hsien. Of the 365 mosquitoes collected, 95.5 per cent were anopheline and 4.5 per cent non-anopheline. Among the anopheline mosquitoes 92.7 per cent were *A. minimus* and 2.8 per cent *A. aitkeni*. In Nodoa Chin the majority of the mosquito population consisted of *Culex*. The anophe-

line mosquitoes were chiefly *A. minimus*.

From the survey, the conclusion was drawn that a high degree of malarial endemicity exists in Pai-Sha Hsien. The high splenic index and the comparatively low parasite rate found among those examined in this community are interpreted as indicating that many are already partially immune. Nodoa Chin presents quite a different picture, and it is believed that malaria is relatively insignificant as a health hazard in this community.

HEMAGGLUTINATION TEST FOR TUBERCULOSIS

Hsioh-Teh Chang and his associates tested the sera of 217 patients for the hemagglutination reaction in tuberculosis.[10] PPD solution was used as the sensitizing agent. Of the group with active pulmonary tuberculosis 91.5 per cent showed a positive titer of 1:8 or more. The incidence of significant positive titer among the group with extra pulmonary tuberculosis was about 60 per cent. The titer for patients with quiescent tuberculous infection was less than 1:8. The authors, therefore, consider this test as having diagnostic value, and indicating active tuberculous infection with 1:8 as the minimal significant titer.

PROBLEMS OF PUBLIC HEALTH AND MEDICAL CARE IN THE PHILIPPINES

A major factor in the Philippine health picture is the insufficient number of trained personnel and facilities. Meñez reports on the current situation.[11] There are 6,689 physicians in active practice. These include physicians in government service. There are also some 500 doctors who have retired, or who earn their livelihood in some form other than medical practice. Thus, there is an approximate total of 7,000 physicians, or one doctor per 2,957 inhabitants (for an estimated population of 20 million). At the same time, there is a very marked maldistribution of physicians. As in other countries, doctors tend to congregate in larger cities. For example, Manila has a total of 2,182 physicians, or one per 482 inhabitants. There are also three other cities where the ratio is less than 1,000 inhabitants per physician. On the other hand, there are 15 provinces where there is only one physician per 10,000 or more persons. This situation is the resultant of several factors. Young, recently graduated physicians stick to population centers where hospital and laboratory facilities, as well as modern conveniences are available. Another factor is the ignorance in health matters of a large part of the population, especially the rural population. What is needed is health education of the doctor's future patients, but for this the physician has not been equipped by his training nor does it earn him a livelihood. Furthermore, physicians in rural areas are limited by rural poverty. Patients who can afford to do so go to urban centers.

There are some 2,436 dentists in the Philippines, with a ratio of one dentist per 8,000 inhabitants. The distribution of dentists follows the same pattern as that of physicians.

Some 2,960 nurses are listed as in active practice. While it is estimated that there are about 5,000 registered nurses, many have married and do not carry on their profession. The distribution of nurses is like that of doctors and dentists. They are to be found in urban centers where they can obtain employment. Nurses have a difficult time competing with various midwives, herb-healers and the like. Meñez points out that nurses could be of great value in carrying health education to the people.

There is a total of 260 hospitals throughout the Philippines with a total bed capacity of 12,950 (exclusive of leprosaria and mental hospitals). This gives a ratio of one bed per 1,530 inhabitants. But here too there is the

same maldistribution as with personnel. In Manila alone there are 48 hospitals with a bed capacity of 1,373. Similarly there are 2,888 drug stores in the Philippines, of which 784 (27 per cent) are in Manila. Many provincial towns with over 10,000 inhabitants do not have a single store. Obviously there is an inadequate supply of personnel and facilities, and a very considerable maldistribution.

Despite obvious inadequacies, Philippine health workers have creditable accomplishments to report. Dytuangco describes maternal health work in Manila.[12] The Manila Health Department, through its 35 health centers in different parts of the city, conducts a maternal health program which includes prenatal care, obstetrical care, and postpartum care. Recently four home delivery services were established. Among the problems still to be solved is that of eliminating unlicensed midwives known as *hilots*. The dimensions of this problem may be seen from the following figures. In a study of prenatal clients in eight health centers in 1950, 22 per cent of home deliveries and 9.48 of both home and hospital deliveries were attended by unlicensed midwives. The author points out, however, that these figures are much lower than in the late twenties when unlicensed midwives attended from 80 to 85 per cent of the total deliveries in Manila. In this connection, the author points out how much still remains to be done in the health education of the people. Malnutrition among prospective mothers is another important facet of this problem.

Nutritional anemia is widespread in the Philippines. Dauis-Lawas discusses this problem and the ways in which it may be handled.[13] The author is concerned chiefly with iron deficiency anemia. According to the literature, iron levels in Western children range between 100–150 microgram per cent. In Filipino children, studies by Stransky, Dauis-Lawas and Lawas showed very low levels. Of those examined in the first 3–5 years of life, 73 per cent showed less than 30–40 mg. In addition to iron determinations, hemoglobin studies were undertaken in 200 children, ranging in age from infancy to 5 years of age, most of whom were in the youngest age group. These were children from the Well Baby Clinic of the Philippine General Hospital and from the Pediatric Ward of the hospital. Eight per cent of those examined showed a hemoglobin level below 10 gm. per cent, while 56 per cent were below 9 gm. per cent. The handling of this problem involves nutrition education, improvement in living standards, better prenatal care and a better understanding of this problem by medical practitioners.

An interesting survey of the development of public health work in Manila is provided by M. C. Icasiano in an article on "Fifty Years of Public Health Service in the City of Manila."[14] At the beginning of the century public health in Manila was under the direction of the United States military authorities. At that time major efforts were directed toward the control of communicable disease: chlorea, typhoid, plague, smallpox. Today Manila prides itself on not having had an epidemic during the last 30 years despite the war and other calamities. At the same time, new problems are being recognized and programs developed to deal with them.

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A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

Romance Department (Statistical Division)—Last year saw a continuation in the decline of the marriage rate (chiefly because of a gathering dearth of eligibles). This trend may be expected to continue at least until 1960. The striking similarity of the rate curve (by months) during years of cold war and hot war alike offers rich food for quiet rumination—about the ways of a maid with a man.

ANON. Marriages Decrease in 1952. *Statist. Bull. Metrop. Life Insur. Co.* 33, 12:4 (Dec.), 1952.

Breast Feeding—In this practical guide of theirs, the authors say that much is not new and a great deal seems obvious, but it comprises all the small items that make the difference between success or failure for the nursing mother. The paper's inclusiveness is indicated by its 8,000 word length.

BARNES, G. R., JR., *et al.* Management of Breast Feeding. *J.A.M.A.* 151, 3:192 (Jan. 17), 1953.

Definitive—This is a provisional report about a report still to be published—upon a follow-up of a Washington, D. C., chest x-ray survey in which half the eligible population was reached. "... the knowledge brought forth by the survey furnishes, for the first time, a sound foundation for future planning." Clearly the final report must be something to be watched for.

CHRISTIE, A. C. Mass Screening Techniques for Chest Diseases. *J.A.M.A.* 151, 2:114 (Jan. 10), 1953.

Type B Predominated—Though most of us know in a general sort of way about our country's part in the world-wide influenza alerting program, this particularized account of our local handling of the 1952 epidemics will still come as news, even though we have gone through its succeeding annual visitation.

DAVIS, D. J. Influenza Study Program in the United States. *Pub. Health Rep.* 67, 12: 1185 (Dec.), 1952.

Can Statistics Ever Prove Causation?—Over an interval of four years, a large number of British lung cancer patients and controls—patients of the same sex and (approximate) age—were interviewed by special investigators set to gain a history of smoking habits and other personal characteristics. It seems a shame to spoil this completion of an earlier, tentative study. But here's a hint: the findings confirm the first assumptions, as noted in the December, 1950, Annotated Bibliography. (A searching and provocative editorial accompanies the completed report.)

DOLL, R., and HILL, A. B. A Study of the Etiology of Carcinoma of the Lung. *Brit. M. J.* 4797:1271 (Dec. 13), 1952.

A Question of Woman Power—In America, when we need more nurses we embark upon a high-pressure recruitment program. But in England, they begin by considering whether it is wise to divert from the limited national supply of young women (needed for the more elemental jobs of providing food, clothing, and shelter) those who can be trained for the "luxury" of social services. This paper is commended to students of public health—on this side of the Atlantic.

ELLIOTT, A. Money, Manpower and the National Health Service. *Pub. Health* 66, 4:54 (Jan.), 1953.

Polio Research Advances—Three technical papers on the growth of poliomyelitis virus on suspended cell and roller-tissue cultures—a method revolutionizing much of the polio research here and abroad—will not be ignored by the serious student of health administration. In fact, every single one of us should have some awareness of this milestone, however distant his own little job may be from polio control.

ENDERS, J. F., *et al.* General Preface to Studies on the Cultivation of Poliomyelitis Viruses in Tissue Cultures (and two related papers). *J. Immunol.* 69, 6:639 (Dec.), 1952. Also, SVEDMYR, A., *et al.* Complement Fixation with the Three Types of Poliomyelitis Viruses Propagated in Tissue Culture. *Am. J. Hyg.* 57, 1:60 (Jan.), 1953.

Nation's Health—Common sense comments, coming from the head man of Selective Service, would do a world of good—if they can be accepted dispassionately by the viewers-with-alarm and the viewers-with-pride, alike. The record is not a pretty one from whichever end it is looked at.

HERSHEY, L. B. The Inside Story on Rejection Rates. *J. Health & Phys. Educ.* 24, 1:9 (Jan.), 1953.

In Memoriam—As a sort of valedictory to the late Sister Elizabeth Kenny's work comes this statistical report of the patients treated by her or by physiotherapists trained by her. Now, 5 to 10 years later, 69.1 per cent are essentially normal, and 22.5 per cent have only moderate disability, the rest being severely handicapped. Better than 9 good results out of each 10 would have seemed like sweet vindication to that ever crusading lady.

KNAPP, M., *et al.* Results of Kenny Treatment of Acute Poliomyelitis. *J.A.M.A.* 151, 2:117 (Jan. 10), 1953.

It Can Be Done—If agreement is ever reached upon the wisdom of infecting young girls with German measles (to prevent trouble later on), then the practicability of the process is confirmed—in the experience reported here.

KRUGMAN, S., *et al.* Studies on Rubella Immunization. *J.A.M.A.* 151, 4:285 (Jan. 24), 1953.

Three Hundred and Fifty Years Young—This fifth annual Michigan conference was concerned with housing for older people—healthy, disabled, and sick. This is a "new area" in our health field, one stemming from Dutch beginnings in the year 1607. Incidentally, many of our young programs have a way of being older than we think.

MASUR, J. Establishing Housing Standards for the Aged (and) LADIMER, I. Housing and Health Facilities for Our Senior Citizens. *Pub. Health Rep.* 67, 12:1196 (Dec.), 1952.

Overlapping Health Services—Forty-eight different ways of conducting a state public health program are summarized here. About one-sixth of the total state health services are performed by the health department. The salaries of a lucky few health officials have been keeping up with the rising cost of living—most have been skidding downhill.

MOUNTIN, J. W., and HALDEMAN, J. C. State Health Organization: Today and a Decade Ago. *J.A.M.A.* 151, 1:35 (Jan. 3), 1953.

"Down on the Upper"—If your professional interests lie in some area

of child health, it is quite likely that there will be little new to you here, but still the paper may well prove useful as a working drawing of an inclusive community program of oral health for growing children.

SANDELL, P. J. New Light on School Dental Health. *J. Health & Phys. Educ.* 24, 1:6 (Jan.), 1953.

In Defense of Case Reports—Despite overreporting, underreporting, misdiagnosis, and variations in laboratory confirmatory procedures, morbidity reports serve many essential community health purposes, and the perfectionists who belittle the value of case reporting do health administration a disservice.

SHERMAN, I. L., and LANGMUIR, A. D. Usefulness of Communicable Disease Reports. *Pub. Health Rep.* 67, 11:1249 (Dec.), 1952.

A Well Told Who-dunnit?—Mysterious eye affection takes sight of several workers in a war plant. Worried management calls in health department sleuths. Bacteriologist solves problem in 36 hours.

SOLT, J. C. Crisis in a Michigan Plant. *Sight-Saving Rev.* 22, 4:202 (Winter), 1952.

Missed Opportunities—This is a new approach (or, new to this "Annotated Bibliography" at any rate). Histories of 60 cases of congenital syphilis were reviewed to discover how many chances to diagnose the condition were muffed before the patient was finally placed under treatment. Missed opportunities to the tune of 848 were identified among the 60.

WRIGHT, J. J., *et al.* Obstacles to Eradicating Congenital Syphilis. *Pub. Health Rep.* 67, 12:1179 (Dec.), 1952. Also appearing as: GIFFORD, A. J., *et al.* Congenital Syphilis Can Be Eradicated. *Nursing Outlook* 1, 1:28 (Jan.), 1953.

If additional information is desired regarding the articles listed in this Bibliography, please communicate directly with the publications in which they appear; the addresses are furnished for your convenience.

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J. A. M. A. (Journal of the American Medical Association), 535 N. Dearborn St., Chicago 10, Ill.
J. Immunol. (Journal of Immunology), Williams & Wilkins Co., Mt. Royal and Guilford Aves., Baltimore 2, Md.
J. Health & Phys. Educ. (Journal of Health and Physical Education), American Association for Health, Physical Education and Recreation, 1201 16th St., N.W., Washington, D. C.
Nursing Outlook, American Journal of Nursing Company, 2 Park Ave., New York 16, N. Y.
Pub. Health (Public Health), Society of Medical Officers of Health, Tavistock House, South, Tavistock Sq., London, W.C. 1.
Pub. Health Rep. (Public Health Reports), Superintendent of Documents, Gov. Ptg. Office, Washington, D. C.
Sight-Saving Rev. (Sight-Saving Review), National Society for the Prevention of Blindness, Inc., 1790 Broadway, New York 19, N. Y.
Statist. Bull. Metrop. Life Insur. Co. (Statistical Bulletin Metropolitan Life Insurance Company), 1 Madison Ave., New York 10, N. Y.

Motion Picture Reviews

HOMER N. CALVER, *Film Review Editor*

A Piece of Paper. The purpose and importance of a birth certificate. Produced for the Tennessee Department of Public Health, Division of Vital Statistics. 16 mm., black and white, sound, 20 minutes. For sale through Strickland Film Company, 220 Pharr Road, N.E., Atlanta, Ga., at $59.10. Not for rent through this company nor from the producer. Consult film rental libraries regarding rental terms.

The title refers to a birth certificate which, as everyone in public health knows, is the important "piece of paper" that evidences a person's age, parentage, and citizenship. The film is directed toward general audiences. Despite its didactic purpose, it tells a good story (or rather two stories) and should be highly effective in promoting birth registration.

The first part follows the life of a newborn infant to demonstrate how births are registered and how the birth certificate serves him in many ways as he goes through boyhood and adulthood. In the second part, the story switches to an unregistered adult, to show how one goes about obtaining a delayed birth certificate. Although details in these procedures vary somewhat from state to state, the producer has been quite successful in keeping the approach general enough to make the film acceptable nearly everywhere. For many vital statistics and health education offices it should fill an important gap in visual materials, particularly in the neglected field of delayed birth registration.

"A Piece of Paper" invites comparison with "Your Birth Certificate"—a popular-audience film produced by the Texas State Department of Health (reviewed in the December, 1951, issue of the *Journal*). Except for delayed birth registration, which the earlier film did not cover, they are similar in subject matter and approach. Differences in local registration practices, however, might make one film preferable to the other. Health departments contemplating educational activity in this field should therefore review both films before making a choice.

HALBERT L. DUNN, M.D.

Louis Pasteur—Man of Science. A re-creation of this health hero's contributions to medical knowledge. Produced by Sterling Films. 16 mm., black and white, sound, 28 minutes. For purchase from the producer at $100. Address them at 316 West 57th Street, New York 19, N. Y. Consult rental libraries for rental terms.

Vividly pictured in this film is the painstaking work of the great scientist in demonstrating his germ theory and his heartbreaking efforts to have it accepted. It clearly develops the scientific method through which he made his revolutionary contribution to the field of medicine.

Beginning with his disproval of the theory of spontaneous generation, many of Pasteur's experiments are re-created, some of them in the environment where he actually did much of his research. There is a distinct feeling for the time in which he lived and for the lack of scientific understanding which so often he had to combat.

The most interesting feature in the film is that of showing through the microscope the budding and growth of spores and bacilli. These pictures are particularly vivid.

Unfortunately, the scientific accuracy is slightly marred in several ways. Though Pasteur's paralysis is mentioned,

there is little perceptible evidence of it. The laboratory technic used in handling flasks would disturb bacteriologists, but the experiments themselves are well thought out and hold interest. The description of the studies on rabies and the "Pasteur treatment" have historical value but neglect to bring the observer up to date on modern concepts about antirabic treatment.

Unquestionably, the film has educational value from an historical and scientific point of view. It can be used to good purpose, particularly in high school and college classes in courses such as biology and general science. It does not seem especially suited for use with professional groups. The picture would be useful as a motivating force in discussing the great discoveries of Pasteur and his contributions to humanity, and as a starting point in discussing the legacy Pasteur left in developing the scientific method in the study of disease.

The photography and sound are effective throughout the picture, as is the narration.

GEORGE M. WHEATLEY, M.D.

Infectious Hazards of Bacteriological Techniques—The Inoculating Needle. Produced by the Communicable Disease Center of the Public Health Service, Atlanta, Ga., from which it may be borrowed without charge. 16 mm., sound, black and white, 10 minutes. Prints for purchase available through United World Films, 1445 Park Avenue, New York 29, N. Y., for $15.82. An introductory film titled simply "Infectious Hazards of Bacteriological Techniques" has also been produced by the CDC and is available from that source for free loan. It is 16 mm, with sound, but has been produced in color. The purchase price from United World Films is $75.73. The color print was not reviewed.

"The Inoculating Needle" is designed for use in the training of assistants in a bacteriological laboratory. The film brings out effectively that the simple laboratory procedure of using an inoculating needle to transfer cultures introduces a hazard which can be reduced to a minimum by proper technic.

The exposition of the points made is clear. One common error in technic has been omitted, however; it is highly probable that infectious aerosols are created when the inoculating needle is used in streaking agar plates in such a way that it strikes the sides of the Petri dish. All trainees in a bacteriological laboratory should see this film, and many old-timers would be better bacteriologists, safer to have around, if they would condescend to see and hear it.

The film is of good technical quality.

FRIEND LEE MICKLE, Sc.D.

ASSOCIATION NEWS

COMMITTEE ON LOCAL HEALTH GUIDE

The new Subcommittee on Guide to Local Health Administrative Practices of the Committee on Administrative Practice held a first planning conference at the University of Michigan in Ann Arbor on February 9 and 10. This committee was created at the October, 1952, meeting of CAP to prepare a Guide to Local Health Administration designed for the use particularly of the local health administrator. It is hoped further that such a guide will serve as a stimulus and pattern for the development by each state health department of a manual for local health services. The committee's work is supported by a grant from the W. K. Kellogg Foundation.

The members of the new subcommittee are:

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The Ann Arbor meeting developed a tentative outline for the manual. Suggestions for additions or changes are cordially invited from members of the Association. The outline follows:

1. Determination of Problem to be Met—
   - A. Influencing factors—description of population of community and physical, economic and other data affecting health
   - B. Profile of health's status
     - a) Qualitative measurement of health problems
     - b) Quantitative measurement of health problems
   - C. Means of continuing measurement
2. Inventory of Resources to Meet Problem—
   - A. Health department
     - a) Function of official health agency
     - b) Resources — budget, staff, abilities, activities
   - B. Other community resources
     - a) Concept of community health services
     - b) Agencies, organizations, and facilities contributing to community health resources
   - C. Community needs—deficit not met by A and B
     - a) Role of health officer as leader of thought in total community health resources

b) Role of health department within limits of ability prescribed by personnel, budget and law
c) Stimulation of those activities in community prescribed by law and regulation in health department

3. Development of Public Health Programs—
A. Categories of approach—physical, physiologic, epidemiologic, and educational—described in terms of preservation and promotion of state of optimum health
B. Paradox of program vs. disciplinary approach
C. Basic services of health department—outline of programs, services, or functions

4. Development of Operational Policies—
A. The health administrator as director of official agency
a) Methods of program balance and emphasis as related to community need, including continuing evaluation
b) Personnel policies
i) Merit system
ii) Interpersonal relations
c) Fiscal policies
i) Budget planning
ii) Purchasing and auditing
d) Staff organization
e) Inservice training
B. The health administrator as leader of community health thought
a) Psychology of communities
b) External relations of health officer—agencies and organizations with whom relations are desirable and common features of establishing and maintaining good relations

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Helen S. McAleer, R.N., M.Ed., 468 Irvin Ave., Rochester, Pa., School Nurse and Instructor, Beaver Board of Education and University of Pittsburgh

John J. O'Malley, M.Ed., 15 Overlook St., Mount Vernon, N. Y., Student, Columbia Univ. School of Public Health

Dental Health Section

Harvey C. Janke, D.D.S., 793 E. 152 St., Cleveland 10, Ohio, Assoc. Professor of Public Health Dentistry, Western Reserve Univ.

Medical Care Section

Katherine Barrier, M.A., State Board of Health, Raleigh, N. C., Medical Social Consultant

Stella M. Dorsey, 4 Elk St., Albany, N. Y., Medical Social Consultant, State Dept. of Health

Frederick E. Foerster, M.D., 324 E. Wisconsin Ave., Milwaukee, Wis., Private Practice of Internal Medicine

Joseph T. Greco, M.H.A., Touro Infirmary,

New Orleans 15, La., Administrative Resident

Emanuel M. Hagler, M.A., 45-28 Smart St., Flushing 55, N. Y., Rehabilitation Consultant, American Heart Assn.

Cecile Hillyer, A.M., 2500 Que St., N.W., Washington 7, D. C., Program Planning Consultant, Division of Medical Services, Office of Vocational Rehabilitation, FSA

A. Mabelle Hirsch, 1300 S. 20th St., Apt. B-1, Birmingham, Ala., Area Nursing Consultant, Welfare and Retirement Fund, U.M.W.A.

John Y. James, M.P.H., 200 15th Ave., North, Seattle, Wash., Administrative Director, Group Health Cooperative of Puget Sound

Russell Kendall, 842½ 12th Ave., Huntington, W. Va., Public Health Adviser, USPHS

James J. Mayer, M.S., Somerset Community Hospital, 225 S. Center Ave., Somerset, Pa., Administrator

Francis J. Moore, M.H.A., 34 N. Brentwood Blvd., St. Louis 5, Mo., Asst. to Area Medical Administrator, Welfare and Retirement Fund, U.M.W.A.

Barbara S. Sevy, 1809 N. Lincoln Park West, Chicago 14, Ill., Librarian, Commission on Financing of Hospital Care

James A. Shannon, M.D., Ph.D., 4511 Sleaford Road, Bethesda, Md., Assoc. Director, National Institutes of Health

John H. Sloss, M.A., 1020 N. Rush St., Chicago, Ill., Research Consultant, Commission on Financing of Hospital Care

George Tractenberg, 55 West 95 St., New York, N. Y., Vice-President, Group Health Insurance, Inc.

Leon J. Warshaw, M.D., 4 E. 95th St., New York 28, N. Y., Medical Director, United Paramount Theatres, Inc.

Glenn Wilson, M.A., Granite Bldg., Pittsburgh 22, Pa., Technical Asst. to Area Medical Administrator, Welfare and Retirement Fund, UMWA

Unaffiliated

Carolyn M. Brown, 333 Park St., Upper Montclair, N. J., Biochemist, Montclair Surgical Group

Stanley Friedberg, 621 W. 171st St., Apt. 5-G, New York 22, N. Y., Student in Sanitary Science, School of Public Health, Columbia Univ.

Leonard A. Greene, 1102 John Jay, Columbia Univ., New York 27, N. Y., Student, School of Public Health, Columbia Univ.

Donald M. Higgins, Boy Scouts of America, 2 Park Ave., New York 16, N. Y., National Director, Health and Safety Service

C. G. Polan, M.D., Ph.D., 418½ 10th St., Huntington, W. Va., Psychiatric Director, Guidance Clinic for Children and Adults

Gordon S. Siegel, Woodlawn Hospital, Box 64, 6060 S. Drexel Ave., Chicago 37, Ill., Medical Student, Univ. of Chicago

Donald B. Straus, M.B.A., Health Insurance Plan, 7 East 12th St., New York, N. Y., Deputy Exec. Vice-President

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EMPLOYMENT SERVICE

The following pages present information for those seeking qualified public health personnel and for those seeking positions in public health.

This is a service of the Association conducted without expense to the employer or employee.

POSITIONS AVAILABLE

Director, Guidance Clinic—Analytically trained psychiatrist, preferably with experience in child psychiatry or clinic field, to direct guidance clinic program and supervise staff of clinical psychologist and two psychiatric social workers. Clinic has own building and grounds and is sponsored by active mental hygiene association. Active program past four years. Salary commensurate with training and experience. Write: Dr. Paul M. Golley, Treasurer, Chattanooga-Hamilton County Mental Hygiene Association, Chattanooga, Tenn.

Medical Health Officer—for an established county health department of 37,000 in northwestern Illinois. Salary range $7,200–9,000, plus travel allowance. Qualified physician may start above the minimum. Write: President, Lee County Board of Health, 123 E. First St., Dixon, Ill.

Health Officer — Champaign-Urbana Public Health District, a bi-township health department serving a population of 58,385. University town, excellent schools. Write: Roland R. Cross, M.D., Director, Illinois Dept. of Public Health, Springfield, Ill.

Health Officer — Coos County, Ore. bordering on the Pacific Ocean. Up to $10,000 a year to start, plus car mileage. Must have M.P.H. degree and preferably some public health experience. Must be licensed or eligible for license to practice medicine in Oregon. Write: A. T. Johnson, Merit System Supervisor, Oregon Merit System Office, P. O. Box 231, Portland, Ore.

Assistant Health Officer—Salary $696–816. **Public Health Dentist**—Salary $595–734. Health department with staff of 100 serving community of 200,000 in San Francisco Bay Area. Training and/or experience and license to practice in California essential. Write: James C. Malcolm, M.D., Health Officer, Alameda County Health Dept., 576 Callan Ave., San Leandro, Calif.

Medical Director—for established health department comprising three counties adjacent to a large metropolitan area in Colorado, estimated population 180,000. For temporary service during the present director's enforced Army service. Salary $9,000 plus travel allowance. Write: John Simon, Jr., M.D., President, Tri-County Board of Health, 4200 E. 9th Ave., Denver 7, Colo.

Associate Professor of Preventive Medicine and Director Student Health Service in a university medical school; or **Associate Professor and Assistant Health Officer**—One physician is wanted to fit either combination of these positions; clinical and public health experience required; salary $10,000. Write: George A. Denison, M.D., Health Officer, Box 2591, Birmingham, Ala.

Faculty Members—Department of Microbiology and Immunology of medical school in Midwest; moving into new and enlarged quarters at the end of 1953. Staff increase by two full-time members. Those interested and experienced in teaching medical students requested to send personal history, including qualifications and desired rank and salary. Write: **Box PH–33**, Employment Service, APHA.

Health Education Coordinator—to direct and develop program for staff, patient, and family education on problems of tuberculosis in two-year demonstration project at Muirdale Sanatorium. M.P.H., plus two years' experience required. Salary $4,200–4,800. Write: Elizabeth L. Ryan, Director, Health Education, Wisconsin Anti-Tuberculosis Assn., 1018 N. Jefferson St., Milwaukee, Wis.

Sanitary Engineer or Sanitarian II—for new tri-county health department. Salary $5,000 and $4,000, depending on qualifications, plus mileage. Located in southern end of Illinois. Write: James H. Wells, M.D., Health Officer, Egyptian Health Dept., Eldorado, Ill.

Sanitarian — San Bernardino, Calif. (population 73,827). Staff sanitarian in City Health Department. Salary $328–393 monthly. Civil Service position and under the State Retirement Act. Applicant must be a registered sanitarian in California and must establish residence here upon employment. Write: James W. Moreland, M.D., City Health Officer, Room 110, City Hall, San Bernardino, Calif.

Bacteriologist — Vermont State Health

Department, Laboratory of Hygiene. Experience or M.S. degree preferred, but not necessary. Write: Personnel Officer, Dept. of Health Annex, South Burlington, Vt.

X-ray Technician — Responsible for x-ray films for maternity, heart, orthopedic, and chest clinics; control of x-ray supplies and photographs, and, assisting in tuberculosis surveys. Rural-suburban community of 200,000, adjacent to Washington, D. C. Salary range $3,213–3,813. Write: County Personnel Board, Court House, Rockville, Md.

Occupational Therapists — in California physically handicapped program. Starting salary $325, with increase to $395. Applications close May 12. Write Dept. 0–10, State Personnel Board, 1015 L St., Sacramento, Calif.

Social Worker—Civil Service (Grades GS-7, 8, 9, and 11) Salary $4,205–5,940. Positions located in hospitals and regional offices of the VA. Qualifications: graduate study equivalent to all requirements for master's degree or diploma of graduation from second-year curriculum of accredited school of social work. Experience: successful, progressively responsible social work experience. Apply to Executive Secretary, Central Board of U. S. Civil Service Examiners, Veterans Administration, Washington 25, D. C.

Supervisor, Visiting Nurse Association—Minimum qualifications of NOPHN required. Staff of 20 nurses. Two supervisors and director. Three universities affiliating. Three students at present. Salary range $3,600–4,200. Appointment salary according to experience and preparation. Early placement. Write: Director, Visiting Nurse Assn., 119 Ridge St., Newark, N. J.

Nurse, Supervisory—Certificate in public health nursing required. Staff of five nurses. Salary $3,600, plus $35 monthly car allowance. Position open April 1. Write: Health Commissioner, 1208 S. 8th St., Sheboygan, Wis.

Public Health Nurses—Alaska Department of Health. Immediate openings for qualified nurses. All categories require graduation from an accredited school of nursing and completion of an approved course of study in public health nursing. **Senior Public Health Nurse**—Special qualification: 2 years' experience in a generalized public health nursing service. Salary $415 per month. **Public Health Nurse-Midwife**—qualifications: completion of an approved program of study in midwifery, and 1 year generalized public health nursing experience. Salary $415 per month. **Public Health Nurse**—qualification: 1 year of supervised public health nursing experience. Salary $400 per month. In certain areas where the cost of living is higher 15 per cent more is allowed above salary stated. Write: Dorothy K. Whitney, Chief of Nursing, Box 1931, Juneau, Alaska.

Public Health Nurses—Salary $4,205–4,955, and **Professional Nurses**—Salary $3,410–4,160 to train as public health nurses. Federal government retirement plan; opportunities for advancement as well as for study and cultural development in the nation's capital. Write: Mrs. Josephine P. Prescott, Director, Bureau of Public Health Nursing, Health Dept., D. C., Municipal Center, Washington 1, D. C.

Public Health Nurses—Must meet State of California requirements for a public health certificate. In county health department organized four years ago with generalized program, including school nursing. Near the Bay Area. Car required; mileage rate is 8¢ per mile. Salary $3,960 per year. Write: Helen Hallgren, Director of Public Health Nursing, County Dept. of Public Health, P.O. Box 749, Napa, Calif.

Public Health Nurses: Supervisor—Generalized program in combination agency. Salary for supervisor is $3,588–4,368; public health nurses $2,990–3,588; graduate nurses $2,730–3,276. Supervisor must have public health degree and supervisory experience. Write: Miss Abbie Watson, Director, Community Nursing Service, 223 S. Cherry St., Richmond, Va.

Public Health Nurses—in generalized program. Monthly salary range $341.70–372.90; uniform allowance; transportation furnished. Certificate in public health nursing required. Nurses with unmet certificate credits may qualify through local university program; salary $316.22–326.62. Write: Miss Gertrude Mulaney, R.N., Superintendent of Nurses, Milwaukee Health Dept., Milwaukee, Wis.

Public Health Nursing Supervisor—for organized County Health Department. General program in urban and rural area of southwestern New York State. Must have B.S. degree and three years' public health- nursing experience. Four weeks vacation, 38-hour week. Salary range $3,720–4,320. Car furnished. Write: Director of Public Health Nursing, Cattaraugus County Dept. of Health, Olean, N. Y.

Public Health Nurse—Generalized program in urban and rural communities of

San Francisco Bay Area. Salary $306 per month to a maximum of $375 in five years. Write: Director of Public Health Nursing, Alameda County Health Dept., 576 Callan Ave., San Leandro, Calif.

Public Health Nurses—Immediate vacancies exist; under merit system. Salary $3,120–3,720, with travel allowance and per diem. Write: J. E. Waddill, Personnel Officer, State Dept. of Public Health, P.O. Box 640, Boise, Idaho.

Public Health Nurses—Immediate appointment. Salary $311–378. Applicants must be eligible for Public Health Nursing Certificate in California and must have a car. Write: County Civil Service Office, 236 Third St., San Bernardino, Calif.

County Health Nurse—Position open in Sheridan, Wyo.—at foot of Big Horn Mountains. Salary for experienced nurse, $320. Write: Director of Nursing Service, State Health Dept., Cheyenne, Wyo.

Staff Public Health Nurse—Established county health department near Chicago. Generalized nursing program. Active field training program for public health nursing students from three universities. Three weeks' vacation. Starting salary $295–310, depending upon qualifications. Car necessary. Travel allowance $75 per month. Applicants must be eligible for public health nurse certification in Illinois. Write: Dr. E. L. Sederlin, Health Officer, Dupage County Health Dept., 52 E. St. Charles Rd., Villa Park, Ill.

POSITIONS WANTED

Veterinarian—Desires position in city or state public health work. Academic, administrative, or research position also considered. Experience in teaching and research. Advanced degrees. At present head of bacteriology and veterinary science department of state university. Write: **Box V-11**, Employment Service, APHA.

Public Health Engineer—Eight years' experience in state health department. B.S.C.E. and M.S.S.E. At present sanitary engineer in U. S. Army. Available March 15, 1953. Write: Wilfred K. Rodman, P.O. Box 327, St. James, Mo.

Engineer, Public Health (Sanitary) B.S.C.E. Registered, five and one-half years' experience in engineering with state health department. Married. Desires permanent position as chief of sanitation section with large city, county, or district office of a state health department. Prefer Eastern states. Write: **Box E-19**, Employment Service, APHA.

All communications on the following advertisements should be sent to Burneice Larson, Medical Bureau, Palmolive Building, Chicago 11, Ill.

WANTED: (a) PUBLIC HEALTH PHYSICIAN to direct preventive health division, metropolitan health department; duties consist of organizing and directing broad program of preventive services; $12,000–$15,000. (b) ASSOCIATE PROFESSOR OF PREVENTIVE MEDICINE and director of student health department and, also, associate professor and assistant health officer, university medical school. (c) PUBLIC HEALTH PHYSICIAN, Pacific Islands. (d) COUNTY HEALTH COMMISSIONER, California. (e) TWO PUBLIC HEALTH NURSING ADMINISTRATORS to assist director of public health in administration of nursing program and direction of nursing education; masters' degrees, five years' experience desired; $5,600–$7,000. (f) SUPERVISOR, public health nursing; town, 40,000 near university center, South. $4,300–$6,000. (g) SUPERVISOR PUBLIC HEALTH NURSING; Pacific Islands. (h) SCHOOL NURSE; residential town, Chicago area. (i) CHIEF, HEALTH EDUCATION; metropolitan health department; master's in public health required; $6,700–$8,500. (j) STATISTICIAN to supervise general medical records and vital statistics; Pacific Islands. (k) CHIEF, PUBLIC HEALTH laboratory; qualified organize and direct all laboratory services including research; large city, East; $9,000–$11,000. (l) INDUSTRIAL HYGIENIST experienced on sampling techniques and analytical methods; large industrial company; duties involve some travel, various plants. (m) SANITARIAN to conduct generalized program and FOOD SANITARIAN; university town, Midwest. MEDICAL BUREAU Burneice Larson, Palmolive Building, Chicago.

WANTED—OPPORTUNITIES: (a) PUBLIC HEALTH PHYSICIAN; five years' experience as industrial and school physician before specializing; M.P.H. Johns Hopkins; three years, director, city-county department. (b) PUBLIC HEALTH NURSING ADMINISTRATOR; M.A., Public Health; seven years' administrative experience in public health nursing. (c) HEALTH EDUCATOR; M.S., M.P.H., Ed.D. (Health Education, Administration); Columbia and Harvard; four years' teaching; six years, director health education, state health department. (d) INDUSTRIAL HYGIENIST; M.S., five years, hygienist, U.S.P.H.S.; eight years, chief, state department industrial hygiene and assistant professor of public health, medical school. (e) SANITARIAN; B.A. (Major: Biological Science; Minors: Chemistry and Plant Science); graduate training, Environmental Sanitation; three years sanitarian, United States dependency. MEDICAL BUREAU, Burneice Larson, Palmolive Building, Chicago.

NEWS FROM THE FIELD

WHO NEWS

Dr. Candau To Be Director General

At a session in Geneva on January 27 the Executive Board of WHO nominated Dr. Marcolino Gomes Candau to succeed Dr. Brock Chisholm as director general of WHO on the latter's retirement on July 1, 1953. Dr. Candau's name will go to the Sixth World Health Assembly opening in Geneva on May 5, as the sole nominee, according to the WHO constitution.

Since March, 1952, Dr. Candau has been in Washington as assistant director of the Pan American Sanitary Bureau. Previously he had been two years in WHO's Geneva headquarters, first as director of the Division of Public Health Services, later as assistant director general in charge of the Department of Advisory Services.

Dr. Candau, a native of Brazil, completed his medical studies at the School of Medicine of Rio de Janeiro, later receiving an M.P.H. degree from the Johns Hopkins School of Hygiene and Public Health. Previous to his WHO experience he was superintendent of the "Servico Especial de Saude Publica," a cooperative public health program of the Brazilian government and the Institute of Inter-American Affairs. Dr. Candau was a vice-president of the American Public Health Association in 1950.

WHO Teaching Mission to Egypt

A teaching mission organized under the auspices of the WHO at the invitation of the Egyptian Minister of Health left the United States on February 8 to spend five weeks in Cairo and vicinity conducting a series of lectures and institutes planned by the Ministry of Health. Members of the group included Gaylord W. Anderson, M.D., Dr.P.H., Mayo professor and head of the School of Public Health, University of Minnesota, Minneapolis; Waldo Treuting, M.D., M.P.H., professor of public health administration, Department of Tropical Medicine and Public Health at Tulane University, New Orleans, La., and Clarence I. Sterling, Jr., deputy commissioner of the Massachusetts State Department of Public Health, Boston.

Cairo Tuberculosis Training Center

Sponsored jointly by the Egyptian Ministry of Health and WHO, a tuberculosis training center for eastern Mediterranean countries is being opened in Cairo this month. Doctors, nurses, social workers, and technicians from Libya east to Pakistan, from Syria south to the Somalilands, will be able to take short refresher courses at the seminar or to study for a diploma in tuberculosis. They may study at the center for any desired period at their convenience.

Administrative and clinical aspects of tuberculosis control will be taught at the newly opened Bab El-Sharia Chest Center in Cairo, staffed by Dr. J. B. McDougall of WHO, Dr. Pierre Colinet, epidemiologist, and international nurses and technicians.

A diploma in tuberculosis will be given to those pursuing an intensive course of study of approximately one year. Courses leading to the diploma will begin on November 1, 1953.

First Viet Nam Children's Hospital

In a ceremony participated in by the Viet Nam prime minister, the executive director of UNICEF, and WHO's adviser to Viet Nam, the foundation stone for the first children's hospital in Viet Nam was laid in January. Located on

the grounds of Tudu Maternity Hospital halfway between Saigon and Cholon, the hospital will have 250 beds and outpatients clinics able to care for 150 to 200 children daily. It will be the only children's hospital in South Viet Nam, with a child population of a million and a half.

UNICEF will supply $40,000 worth of essential imported supplies and equipment, the Viet Nam government will spend about $850,000 for construction and the first year's operating expenses; WHO will assign a maternal and child health expert to be associated in running the hospital. The hospital will be used as a pediatrics training center for the Faculty of Medicine of Saigon, University of Hanoi.

UNICEF has also provided equipment and supplies for five children's clinics in the area, for a 45-bed children's ward in the prefectural hospital of Saigon, and for a nursing and midwifery school, as well as assistance in BCG vaccination campaigns in the Saigon area and in Cambodia.

Another Unitarian Medical Mission

A team of 15 scientists from seven countries was in India at the request of the Indian government, in February to exchange the latest medical knowledge with Indian physicians. The project was organized jointly by WHO and Unitarian Service Committee, which has taken part in 17 earlier similar missions to Austria, Finland, Iran, Israel, the Philippines, and Poland.

The mission, which first had briefing conferences at WHO headquarters in Geneva, included two Nobel Prize winners and five scientists from the United States. The Nobel Prize winners were Sir Alexander Fleming of London, discoverer of penicillin, and Dr. Corneille Heymans of Belgium, distinguished for his respiratory studies.

Chairman of the team was Samuel Z. Levine, M.D., assistant professor of pediatrics, Cornell University Medical School. Other United States physician members were: Joseph C. Aub, professor of research medicine, Harvard Medical School; Stuart C. Cullen, professor of anaesthesiology, University of Iowa Medical School; John E. Gordon, professor of epidemiology and preventive medicine, Harvard School of Public Health; Leo G. Rigler, professor of radiology, University of Minnesota Medical School.

Dr. Karl Evang, director general of public health in Norway, was vice-chairman of the team. The remaining seven members were from England, Denmark, France, and Italy, and included WHO's director of education and training services, Dr. Edward Grzegorzewski from the Geneva headquarters.

Veterinary and Human Medicine

A Seminar on Zoonoses was held jointly by WHO and FAO of the United Nations in Vienna's Veterinary Medical School in November, 1952, with the Government of Austria as host. The "big five" of animal diseases transmissible to man discussed were brucellosis, Q fever, leptospirosis, rabies, and bovine tuberculosis. For the discussion of the last mentioned a cow was brought into the clinic and x-rayed with equipment that does not exist anywhere else in Europe. But the best method for detection of tuberculosis infection among dairy herds is the tuberculin test, according to the discussion leaders.

The seminar and its findings are fully reported in the January, 1953, *WHO Newsletter* under the title, "The Cow in the Clinic."

Summarizing WHO in Latin America

The *WHO Newsletter* for December, 1952, is devoted to the Pan American Sanitary Bureau in recognition of the "50 years of health cooperation in the Americas." Briefly and dramatically it ranges over the half century of health

history—the control of malaria, the development of health centers, the Institute of Nutrition of Central America and Panama, BCG vaccination programs, to name but a few. The whole issue is worth study, particularly by those who wish to enlighten their interest in our neighbors to the South. Copies are available from the Pan American Sanitary Bureau, Washington, D. C.

Greeting Cards Can Feed Children

UNICEF greeting cards sold during the 1952 holiday season netted enough funds ($60,000) to buy penicillin with which to treat about 400,000 young victims of yaws, or DDT to protect half a million people from malaria for a year. Such an amount has provided daily milk and fats for two years to build up the health of 30,000 school children in the Maya highland villages of Guatemala. About the same amount equipped four maternity hospitals in Pakistan, where 100 per cent overcrowding had become routine because of lack of equipment. Or again, about the same amount is being spent by UNICEF to help Bolivia fight typhus in states comprising half the country.

Recommends China Remain Active

Since May, 1950, China has been one of 10 inactive members of WHO whose contributions have remained unpaid. By the end of 1952 her arrears amounted to more than $2,000,000. However, the WHO Executive Board, meeting in Geneva in January, recommended that the next World Health Assembly facilitate China's resumption of active participation by accepting an "extraordinary reduced contribution."

PUBLIC HEALTH NURSING ACTIVITIES IN THE ANA

As a part of the recent reorganization of professional nursing associations (see editorial, *A.J.P.H.*, August, 1952, p. 993), a Public Health Nurses Section has been organized in the American Nurses' Association. This is in line with the plan under the new structure for the two national organizations which came into being at the biennial nursing convention held in June, 1952. Fannie T. Warncke, chairman of the Public Health Nurses Section, ANA, has pointed out that some of the functions formerly carried by the National Organization for Public Health Nursing are now allocated to the Public Health Nurses Section, ANA, while others are carried by the Public Health Nursing Department, National League for Nursing.

One of the functions of the section of the ANA is to organize conference groups within the section upon request. Such a conference group was organized by the school nurses because of their special interest in mutual problems. The members of this conference group will have the opportunity to hold meetings during the biennial ANA convention. The chairman will serve as a member of the Executive Committee of the Public Health Nurses Section, ANA.

Other major functions of the Public Health Nurses Section, ANA provided for are to define functions, standards, and qualifications for practice; to initiate studies or experiments for the improvement of practice; to study the general welfare and economic needs of the members and to develop desirable standards of employment; to promote the organization of subunits within the section so that those having like interests may meet to consider the economic security program separately from other groups; to represent the occupational interests in district, state, and national meetings; to develop relationships with allied professional groups; and to develop and actively promote programs for intergroup relations within the section so that minority groups may fully participate in the ANA.

According to Mrs. Warncke, the ex-

ecutive committee at its recent meeting has chosen three goals for the section in 1953 to be accomplished through working committees: (1) To assist in organizing state and district public health nurses sections within the state and district nurses associations; (2) to initiate measures toward the establishment of functions, standards and qualifications for practice, and (3) to meet the interests of all public health nurses through program and business sessions during the 1954 biennial convention.

A committee of the ANA Section on Functions, Standards and Qualifications for Practice, has been appointed under the chairmanship of Ruth Freeman, Ed.D., of the Johns Hopkins University School of Hygiene and Public Health, Baltimore, Md.

ALBERT LASKER AWARD IN CARDIOVASCULAR DISEASES

The Albert and Mary Lasker Foundation and the American Heart Association have announced the establishment of the Albert Lasker Award "for distinguished achievement in the field of cardiovascular diseases," which is the leading cause of disability and death in the United States.

Paul D. White, M.D., of Boston, Mass., clinical professor of medicine in the Harvard University Medical School, chief consultant to the National Heart Institute, and a founder of the American Heart Association, has been named first winner of the award to be presented annually by the foundation through the American Heart Association. Dr. White was cited for his "pioneering efforts in the pathology, diagnosis and treatment of heart disease for more than three decades." The award was formally presented at the 1953 Heart Fund Dinner of the Massachusetts Heart Association in Boston on February 2. It includes a prize of $1,000, a scroll describing the accomplishments, and a gold statuette of the Winged Victory.

Harold M. Marvin, M.D., of Yale University School of Medicine, is chairman of the association's Award Committee.

MENTAL HEALTH WEEK IS MAY 3–9

"Fight Mental Illness—Ring the Bell for Mental Health" is the slogan for the 1953 Mental Health Week, to be observed from May 3 to 9. A swinging bell calling all people to the crusade has been adopted as a symbol by the National Association for Mental Health. The symbolic bell appears on posters and other materials.

Joining in the sponsorship of community campaigns to make every citizen conscious of his stake in the mental health problem are more than 300 state and local mental health associations. They are seeking the cooperation of other health and citizen agencies.

As an aid in developing local publicity and interest the National Society has prepared a list of sources, by states, of mental health information, a flyer on "Fight Mental Illness," and a publicity kit. Each is available from state or local mental health associations or the National Association for Mental Health, 1790 Broadway, New York 19, N. Y.

ROYAL SANITARY INSTITUTE TO MEET

The Royal Sanitary Institute will hold its 1953 Health Congress in Hastings, April 28–May 1. The program consists of one meeting of each of eight sections: preventive medicine, engineering and architecture, maternal and child health, veterinary hygiene, food and nutrition, housing and town planning, tropical medicine, and occupational health; of four conferences, one each of medical officers of health, of engineers and surveyors, of sanitary inspectors, and of health visitors; and visits to numerous installations such as a housing site and hop pickers' huts, a modern school, gypsum mines, drainage works, deep freeze storage and pasteurizing plants,

home for aged, flour mill, and swimming baths, to mention some.

Two speakers from the United States are on the program—Walter F. Snyder, executive director of the National Sanitation Foundation, who will speak on "Food Hygiene" at the sanitary inspectors conference and John A. Logan, D.Sc., Division of Medicine and Public Health of the Rockefeller Foundation, who will address the Tropical Hygiene Section on "Environmental Control in the Tropics—Its Problems and Its Opportunities."

Copies of the program may be obtained from the Secretary, Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W. 1.

YELLOW FEVER VACCINE DISTRIBUTION

The Rocky Mountain Laboratory of the Public Health Service, which has heretofore been the sole manufacturer of yellow fever vaccine, has turned production over to private enterprise. For purposes of the International Sanitary Regulations which require the "health administration" of each nation to designate yellow fever vaccination centers where travelers are vaccinated and receive the authentic yellow fever vaccination certificate, the Surgeon General of the Public Health Service has been designated as the "health administration."

The following policy with regard to "yellow fever vaccination centers" has been outlined:

1. Centers will be designated only among Public Health Service facilities, Department of Defense installations, organizations with large numbers of employees going into yellow fever areas, or a health department in a state in which a PHS yellow fever vaccination clinic is not available.

2. The Epidemiology and Immunization Branch of the Division of Foreign Quarantine is responsible for approving the vaccination centers and for making the necessary investigation to insure compliance with requirements for handling the vaccine.

3. Because the vaccine must be stored and transported at a subfreezing temperature, shipments must be routed directly from the drug company to the vaccine center, which may not redistribute.

Yellow fever vaccine may now be purchased from: the National Drug Company, 4663 Stenton Avenue, Philadelphia 4, Pa.

While arrangements are being completed for this company to produce the vaccine in accordance with national and international regulations, it will distribute the remaining stock of the Rocky Mountain Laboratory. The latter will continue to be a vaccination center.

JOINT HOSPITAL ACCREDITATION

At a special ceremony in Chicago on December 5, 1952, the American College of Surgeons turned its quarter of a century old hospital standardization program over to a new Joint Commission on Accreditation of Hospitals. The commission is a project of five agencies each of which has representation on the 20-man Board of Commissioners and each of which contributes its financial support in proportion to its representation. The five agencies are the American College of Physicians and the American College of Surgeons, each of which has three representatives, the American Hospital Association with seven, the American Medical Association, six, and the Canadian Medical Association, one. The director of the commission is Edwin L. Crosby, M.D., former director of Johns Hopkins Hospital. The offices are in Chicago, Ill.

HOME CARE PROGRAMS STUDIED

A study of the Richmond home care program for the sick, which is sponsored jointly by the Richmond Health Department and the Medical College of Virginia, is serving as a pilot project for a broader survey of presently operating home care programs. The study is being carried on jointly by the Commission on Chronic Illness and the Division of

Chronic Disease and Tuberculosis of the Public Health Service. With the Richmond study as a background, technics and schedules are now being reviewed by a study board, made up of Martin Cherkasky, M.D., director of Montefiore Hospital in New York as chairman, William R. Willard, M.D., dean of the State University of New York at Syracuse College of Medicine, and Dorothy Wilson, R.N., executive director, New Haven Visiting Nurse Association.

DENTAL SCHOOL NEEDS

Expansion of physical facilities and additional equipment are cited as the most pressing needs of the nation's dental schools in the report of a survey conducted by the Public Health Service and sponsored by the Council on Dental Education of the American Dental Association. "Financial Status and Needs of Dental Schools" is an 83-page booklet covering the 40 fully operating schools in the academic year 1949–1950. It says in part, "Additional space was needed to relieve the overcrowded classrooms, to expand clinics and to permit more research to be carried on in the dental schools. . . . The schools estimate they need $43 million for equipment such as microscopes, dental chairs, dental engines and cabinets, to mention a few of the types." Advising the staff of the study was an advisory committee of five dentists, whose chairman was first Dr. J. Ben Robinson, later, Dr. Gerald D. Timmons.

Public Health Service Publication No. 200, Gov. Ptg. Office, Washington 25, D. C.

CUTTER LECTURE BY PROFESSOR HILL

The Harvard School of Public Health announces that A. Bradford Hill, professor of medical statistics at the London School of Hygiene and Tropical Medicine and honorary director of the Statistical Research Unit of the Medical Research Council, will deliver the Cutter Lecture on Preventive Medicine in Amphitheatre D of the Harvard Medical School, Boston, Mass., on March 25, 1953, at 5 p.m. Professor Hill's subject is, "Observation and Experiment." The medical profession, medical and public health students, and others interested are cordially invited to attend.

TWO NEW CANCER INSTITUTE BRANCHES

The National Cancer Institute of the Public Health Service has established two new branches for orientation of its work to new research programs in the Clinical Center of the National Institutes of Health. The two new branches are, respectively, Research Medicine and Clinical Medicine and Surgery. Roy Hertz, M.D., former head of the Endocrinology Branch, has been named chief of the former; Robert R. Smith, M.D., recently appointed chief surgeon of the National Cancer Institute, is serving as acting chief of the Clinical Medicine and Surgery Branch.

PENNSYLVANIA SANITARIANS ORGANIZE

The Pennsylvania Association of Sanitarians was recently organized by the sanitarian assistants of the State Health Department. Robert P. Darrall of Masontown was elected president; Lou Specter of Erie, vice-president; John F. McGoven of Beaver, secretary, and Leo C. Forest of Dallastown, treasurer.

ENGLISH HOSPITALS AND GERIATRICS

During the summer of 1952 V. L. Ellicott, M.D., health officer of Montgomery County, Md., in behalf of his state's health department and under a WHO fellowship, visited England and Denmark to study their handling of geriatric problems in hospitals. The Commission on Chronic Illnesses (U.S.) also asked him to serve as its observer and to report on programs he had seen in action and hospitals he visited. His report is printed in the November–December, 1952, issue of the *Chronic*

Illness News Letter, published by the commission, 615 N. Wolfe St., Baltimore 5, Md.

PUBLIC HEALTH SERVICE EXAMINATIONS

Competitive examinations for appointment to the Regular Corps of the Public Health Service are announced for the positions of Assistant Veterinarian, Senior Assistant Veterinarian, Scientist (Chemist and Biochemist), and Sanitarian (Chemist). Examinations will be held June 2–4, 1953, in various parts of the United States. Applications must be received not later than April 21, 1953. Application forms and further information from Chief, Division of Commissioned Officers, Public Health Service, Washington 25, D. C.

PREMATURE NURSING CARE COURSE

The North Carolina State Board of Health has now opened its premature nursing care course, given in cooperation with Duke University, to nurses from South Carolina, Virginia, Puerto Rico, and the Virgin Islands. This has been made possible by a grant of Children's Bureau funds.

The courses, begun in October, 1951, have trained almost 200 nurses in care of premature infants. The program consists of course work at Duke University and two-day institutes in cities throughout the state. Ellen Kiernan of the staff of the Duke School of Nursing conducts the program which is sponsored also by the State Pediatric Society and the State League of Nursing Education.

ENVIRONMENTAL SANITATION MEETINGS

The Sixth National Public Health Engineering Conference for the Civil Engineering Department, University of Florida, will be held in Gainesville, March 24 and 25. The special subject for discussion is swimming pools and bathing beaches. Operation of bathing areas will be featured. For further information, write Professor John E. Kiker, Jr., of the Civil Engineering Department.

The Purdue University College of Engineering announces the Eighth Purdue Industrial Waste Conference to be held in Lafayette, Ind., May 4–6. Emphasis will be placed on current progress in industrial wastes disposal. For further information, write Professor John E. Bloodgood, Chairman, Eighth Purdue Industrial Waste Conference, Purdue University.

LAWS ON OCCUPATIONAL DISEASES

"State Compensatory Provisions for Occupational Diseases," Information Circular 7650, has been prepared for the Bureau of Mines by G. G. Morgis and S. J. Davenport of the Health Branch of the bureau. The report points out that every state now has made some statutory provision for compensation in occupational diseases with the exception of Kansas, Louisiana, Mississippi, Oklahoma, and Wyoming. It further points out that each state administers its own laws independently, so that there is no uniformity among states. Compensation laws for occupational diseases and disabling injuries incurred on the job as found in the various state laws are briefly summarized. Available from the Bureau of Mines, Publication Distribution Section, 4800 Forbes Street, Pittsburgh 13, Pa.

PERSONALS

OTTO L. BETTAG, M.D.,* tuberculosis control officer for Chicago and medical director of the Municipal Tuberculosis Sanitarium, has been appointed Illinois director of public welfare.

SARA E. BRANHAM, M.D.,* principal senior bacteriologist at the National Microbiological Institute, National Institutes of Health, Bethesda, Md., recently received the distinguished service citation, University of Chicago's Medical Alumni Association.

M. M. BROOKE, D.Sc.,† chief of the Parasitology-Mycology Laboratories of the Communicable Disease Center, Atlanta, Ga., has been elected president of the Communicable Disease Center Branch of the Scientific Research Society of America.

WILLIAM J. BROWNE,† food inspector, Chicago (Ill.) Board of Health, has become health researcher and consultant for the Committee on African Studies, Roosevelt College, Chicago, and is on the staff of its "Workshop on Africa as a World Problem," to be held in the spring semester of 1953.

WILBUR J. COHEN,† chairman of the Health and Welfare Committee, Wage Stabilization Board and technical adviser to the Commissioner for Social Security, FSA, Washington, D. C., has returned from a two-months' survey of health programs in Israel, Pakistan, India, Burma, Thailand, and Japan.

JACKIE COLE, with experience both as a teacher in a rural school and as a director of physical education in a town school system, is director of health education, Otoe County, Neb.

RONALD R. CROSS, M.D.,† has been reappointed Illinois state director of public health (Springfield), by GOVERNOR WILLIAM G. STRATTON, for a two-year period.

ERNEST COUTURE, M.D.,† author of *The Canadian Mother and Child,* has given up his post as director of the Child and Maternal Health Division, Canadian Department of National Health and Welfare, to return to private practice in Ottawa.

JAMES P. DIXON, JR., M.D.,* commissioner of health of Philadelphia, is on leave to the Public Health Service as assistant director of the Clinical Center for Research, Bethesda, Md.

JACK EVANS, JR., former assistant instructor and staff member of the psychological clinic, University of Kansas, has been appointed clinical psychologist, Division of Mental Hygiene, Kansas State Board of Health, Topeka.

WILLIAM E. FOSTER has resigned as quality control supervisor for Sheffield Farms Company, New York, N. Y., to become a staff sanitarian, American Sanitation Institute, St. Louis, Mo.

THOMPSON R. FULTON, formerly acting head of the Department of Social Work, West Virginia University, is now consultant in social work to the Bureau of Mental Health, West Virginia State Department of Health, Charleston.

MARGARET BROOKS GORMAN, formerly assistant professor in the Department of Child Development and Family Relationship, Cornell University, is now health educator, Education Department, Cleveland Health Museum.

BERNARD G. GREENBERG, Ph.D.,* has been promoted to full professor and remains head of the Department of Biostatistics, University of North Carolina, School of Public Health, Chapel Hill.

EMANUEL HAGLER, formerly supervisor of the Division of Vocational Rehabilitation, New York State Department of Education, has been appointed national consultant on the employment problems of people with heart diseases for the American Heart Association, New York City.

R. MILDRED MEYER HALL, R.N.,† assistant professor of public health nursing at the University of Pennsylvania, has been appointed editor of *Nursing Outlook,* the new official publication of the National League for Nursing, New York, N. Y.

SCOTT P. HAUSER has succeeded LOIS GOODWIN † as executive secretary of the Tioga County (N. Y.) Tuberculosis Association.

MARION L. HENRY,† assistant director since 1944, has been appointed director of the Office of Business Administration, New York State Health Department, Albany, succeeding CLIFFORD C. SHORO,* retired.

WASILY HOEFFDING has been appointed associate professor of biostatistics, University of North Carolina, School of Public Health, Chapel Hill.

ROGER G. KNIPE, M.D., D.P.H.,* who has been medical officer of health, Elgin-St. Thomas Health Unit, St. Thomas, Ont., Canada, has resigned to become district state health officer, New York State Department of Health in the Batavia district.

COL. DWIGHT M. KUHNS, MC,* U. S. Army, former chief of the Laboratory Service, Walter Reed Army Hospital, has reported to the Army Surgeon General's office as chief of the Pathology and Allied Sciences Division, Washington, D. C., succeeding COL. HUGH GILMORE, JR., MC, who has been appointed curator, Army Medical Museum.

MARY HILL LANDSRATH is the new executive secretary of the Schenectady (N.Y.) Tuberculosis Association, succeeding ROSEMARY KEANE,† who has become director of publicity.

CARL A. LAWRENCE, Ph.D.,* former assistant professor of bacteriology, University of Michigan Medical School, has succeeded RAYMOND V. STONE, D.V.M.,* retired, as director of the Bureau of Laboratories, Los Angeles County (Calif.) Health Department.

DOROTHY R. LEBLANC, R.N.,† formerly senior

* Fellow.
† Member.

public health nurse, Madison County Health Department, Miss., is now research assistant in epidemiology, Department of Tropical Medicine and Public Health, Tulane University School of Medicine, New Orleans, La.

VERNON W. LIPPARD, M.D., dean, Department of Medicine, University of Virginia, has been made dean of the School of Medicine, Yale University, New Haven, Conn.

HELEN LOVELL, former nutritionist with the Iowa State Department of Health, Des Moines, has rejoined the department after three years as instructor in home economics, State University of Iowa.

ANNE R. MATTHEWS,* chief nutritionist, Maryland State Department of Health, Baltimore, was recently awarded the Certificate of Distinction for Community Services by the Alumni Association, University of Maryland.

AUSTIN W. MATTHIS, M.D., recently returned from a tour of duty in American Samoa, Guam, and the Union of South Africa where he acted as medical director of Territorial Governments of the Pacific, and as medical director of a commercial concern in South Africa, has been appointed health officer for Imperial County, Calif.

EVERETT N. MCDONNELL, president of McDonnell & Miller, Inc., Chicago, Ill., has been awarded the F. Paul Anderson Medal of the American Society of Heating and Ventilating Engineers for 1952 "for outstanding work in the field of heating, ventilating and air conditioning."

JOHN R. NEAL, M.D., a county employee for 25 years, has been appointed head public health physician, Tuberculosis Division, Los Angeles (Calif.) Health Department, succeeding PERCY K. TELFORD, M.D., retired.

PAUL Q. PETERSON, M.D.,* chief of the Bureau of Direct Services, Ohio State Department of Health, has been commissioned a Colonel, U. S. Public Health Service, and for a two-year period heads a medical unit assigned to the Chinese National Government, with headquarters in Formosa.

FRANK W. REYNOLDS, M.D., M.P.H.,* medical officer, Division of Communicable Diseases, WHO, has returned to Geneva Headquarters following an extended trip to Africa where he carried out communicable disease surveys on behalf of the Governments of Nigeria and Uganda.

WILLIAM A. SAWYER, M.D.,* recently retired as medical director, Eastman Kodak Company, Rochester, N. Y., has been appointed health consultant for the International Association of Machinists, Washington, D. C., and will be responsible for charting a broad program of health care for the union members.

BENTON V. SCOTT,* formerly director of the Jackson City Health Department, Michigan, is now director of the Catawba-Lincoln-Alexander District Health Department in Newton, N. C.

ROY M. SEIDEMAN, M.D., Dr.P.H.,* formerly general medical officer, Preventive Medicine Division, Office of the Surgeon General, U. S. Air Force, Washington, D. C., has been appointed assistant director, Biologic Laboratories Division, Institute of Laboratories, Massachusetts Department of Public Health, succeeding HUSTON J. BANTON, M.D.,† resigned to become medical director, American Red Cross, Boston, Mass.

RAE SHOEMAKER,* former secretary for neighborhood activities, Welfare and Health Council of New York City, is now director, Division of Publications and Information, Association for the Aid of Crippled Children, New York City.

CLIFFORD C. SHORO,* recently retired director of the Office of Business Administration, New York State Health Department, has been appointed administrative director, Albany Hospital (N.Y.) Cerebral Palsy Treatment Center.

JAMES S. SIMMONS, Brigadier General U.S.A. (Rtd.),* and dean, Harvard School of Public Health, Boston, Mass., in November, 1952, received the 14th Gorgas Memorial Award, "for distinguished service to our military forces in improving their health and conserving their fighting strength," by the Association of Military Surgeons of the United States for his work during World War II while chief of Preventive Medicine Service, Office of the Surgeon General, U. S. Army.

NATHAN SINAI, Dr.P.H.,* director of the Bureau of Public Health Economics, School of Public Health, University of Michigan, on leave of absence for the academic year 1952–1953, is consultant to the director general of WHO on program planning and evaluation, with headquarters in Geneva, Switzerland.

SOLOMON L. SKVIRSKY, M.D.,* who has been assistant director of local health administration, Massachusetts State Department of Public Health, has become director of health services for state employees and the Legislature, with offices in the State House, Boston.

DONALD SUGGS, M.P.H.,† former senior sanitary engineer, Division of Local Health Services, California State Health Department, is now public health engineer, Los Angeles County Health Department.

* Fellow.
† Member.

BENJAMIN VIEL, M.D., Dr.P.H., director of the School of Public Health, Santiago, Chile, arrived in Minneapolis late in January to serve for two months as visiting lecturer in epidemiology, University of Minnesota School of Public Health, Minneapolis.

JUDITH E. WALLIN, R.N.,† former territorial supervisor of the Metropolitan Life Insurance Company, has been appointed assistant executive secretary in charge of the new Public Health Nurses Section of the American Nurses' Association, New York, N. Y.

WILLIAM D. WEIS, M.D., Lake County (Indiana) health officer for 18 years, and city health officer of Hammond from 1908 to 1918, has retired at the age of 79.

OLGA WEISS, R.N., former staff member, Western Psychiatric Institute and Clinic, University of Pittsburgh, and 1950 winner of the Mary M. Roberts Fellowship in Journalism, has been named associate editor of *Nursing Outlook*, National League for Nursing, New York, N. Y.

JAMES H. WHITE, M.D.,† has been appointed director of the Weld County (Colo.) Health Department. ELLA MEAD, M.D.,† acting director since February, 1950, will continue to serve as registrar of vital statistics.

CHARLES F. WILINSKY, M.D.,* retired as assistant health commissioner from the Boston (Mass.) Health Department on December 31, 1952.

ALBERTA WILSON, R.N.,* after two years as director of nursing in the Pittsburgh (Pa.) Department of Health, has joined the nursing staff of the Minnesota Department of Health (Minneapolis) to work with schools of nursing and with public health nursing services in their plans for teaching students in nursing.

DEATHS

OSWALD F. HEDLEY, M.D.,† medical director, Public Health Office of the Mutual Security Agency, Washington, D. C., on November 18, 1952, at the age of 49 (Epidemiology Section).

HAROLD W. LYALL, Ph.D.,* assistant director in charge of antitoxin, serum and vaccine laboratories, Division of Laboratories and Research, New York State Department of Health, on January 3 (Laboratory Section).

HAROLD ORR, M.D., president of the Canadian Medical Association, professor of dermatology, University of Alberta, and director of the Division of Social Hygiene, Alberta Department of Public Health, on December 26, 1952.

CHARLES RICH, M.D.,† of Yorktown Heights, N. Y., on January 22 (Unaffiliated).

JOSEPH C. WILLETT, D.V.M.,* deputy city health commissioner, St. Louis, Mo., on December 29, 1952, at the age of 59 (Laboratory Section).

CONFERENCES AND DATES

American Public Health Association. 81st Annual Meeting. New York, N. Y. November 9–13.

Coming in March, April, and May:

Air Pollution Control Association. Lord Baltimore Hotel, Baltimore, Md. May 25–28.

American Academy of Political and Social Science. Benjamin Franklin Hotel, Philadelphia, Pa. April 10–11.

American Association of Industrial Dentists. Los Angeles, Calif. April 19–24.

American Association of Industrial Nurses. Los Angeles, Calif. April 19–24.

American Association of Pathologists and Bacteriologists. St. Louis, Mo. April 2–4.

American Association of Social Workers. Cleveland Hotel, Cleveland, Ohio. May 29–31.

American College of Chest Physicians. Philadelphia, Pa. March 23–27.

American Heart Association. Hotel Chelsea, Atlantic City, N. J. April 8–12.

American Industrial Hygiene Association. Los Angeles, Calif. April 19–24.

American Society for Public Administration. Hotel Statler, Washington, D. C. March 6–8.

American Water Works Association:

- Annual Meeting. Grand Rapids, Mich. May 10–15.
- Arizona Section. San Marcos Hotel, Chandler. April 16–18.
- Canadian Section. Statler Hotel, Buffalo, N. Y. April 6–8.
- Illinois Section. La Salle Hotel, Chicago. March 18–20.
- Kansas Section. Broadview Hotel, Wichita. April 22–24.
- Montana Section. Kalispell Hotel, Kalispell. April 24–25.
- Nebraska Section. Cornhusker Hotel, Lincoln. April 16–17.
- New England Section. Statler Hotel, Boston. March 19.
- New York Section. Mark Twain Hotel, Elmira. April 16–17.

Pacific Northwest Section. Multnomah Hotel, Portland, Ore. April 16–18.
Southeastern Section. Dempsey Hotel, Macon, Ga. March 23–25.
Amherst Health Conference. Massachusetts Public Health Association. June 17–19.
Arizona Public Health Association. Yuma. April 15–18.
Georgia Public Health Association (preceding Southern Branch meeting). Biltmore Hotel, Atlanta. April 21–23.
Illinois Public Health Association. Congress Hotel, Chicago. April 9–10.
Industrial Health Conference. Los Angeles, Calif. April 19–24.
Industrial Medical Association. Los Angeles, Calif. April 19–24.
International Fertility Association. First World Congress. New York, N. Y. May 25–31.
International Hospital Congress. London, England. May 25–30.
Iowa Public Health Association. Hotel Ft. Des Moines, Des Moines. March 5–6.
Kansas Public Health Association (meeting with Middle States Public Health Association). Topeka. April 13–15.
Kentucky Public Health Association. Louisville, Ky. April 8–10.
Louisiana Association of Public Health Workers. Lafayette, La. April 9–10.
Massachusetts Public Health Association. Amherst. June 17–19.
Michigan Public Health Association. Grand Rapids. May 20–22.
Middle States Public Health Association. Jay Hawk Hotel, Topeka, Kans. April 13–15.
Missouri Public Health Association. Governor Hotel, Jefferson City. May 4–6.
National Conference of Social Work. Cleveland, Ohio. May 31–June 5.
National Health Council. Hotel Roosevelt, New York, N. Y. March 19–20.
National Industrial Conference Board, Inc. New York, N. Y. May 21–22.
National Industrial Health Conference. Los Angeles, Calif. April 19–24.
National Society for the Prevention of Blindness. Hotel Statler, New York, N. Y. March 18–20.
National Tuberculosis Association. 49th Annual Meeting. Los Angeles, Calif. May 17–22.
New Mexico Public Health Association. Las Cruces. April 6–7.
Ohio Public Health Association. Southern Hotel, Columbus. April 9–10.
Public Health Records and Statistics. Washington, D. C. March 24–27.
Royal Sanitary Institute—World Health Congress. Hastings, England. April 28–May 1.
Southern Branch, APHA. Biltmore Hotel, Atlanta, Ga. April 23–25.
Tennessee Public Health Association. Andrew Jackson Hotel, Nashville. May 18–20.
United States - Mexico Border Public Health Association. El Paso, Tex., and Ciudad Juarez, Chihuahua, Mexico. April 8–10.
West Virginia Public Health Association. Daniel Boone Hotel, Charleston. May 7–8.
World Health Congress—Royal Sanitary Institute. Hastings, England. April 28–May 1.
World Health Organization—World Health Assembly. Geneva, Switzerland. May 5.
World Medical Association, (First Western Hemisphere Conference) Richmond, Va. April 23–25.

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Improvement of Local Housing Regulation Under the Law. [Nov., 1942.] 16 pp. 25c.
Lemuel Shattuck—Still a Prophet. [February, 1949.] 27 pp. 25c.
The Local Health Department—Services and Responsibilities. An official statement of the American Public Health Association. [1950.] 8 pp. 10c.
Opportunities of the Industrial Hygiene Section. C.-E. A. Winslow. [November, 1950.] 8 pp. Free.
Present Status of the Control of Air-borne Infections. [January, 1947.] Report of the Subcommittee for the Evaluation of Methods and Control of Air-Borne Infections. 10 pp. 25c.
Principles for Consideration in Judging the Probable Effectiveness of Federal Legislation Designed to Improve the Health of Children of School Age. [April, 1948.] 4 pp. 10c.
Quality of Medical Care in a National Health Program. A Statement by the Subcommittee on Medical Care. Dean A. Clark, Chairman. [July, 1949.] 28 pp. 10c each, 100 copies $7.50
Recent Observations of the British National Health Service. [May, 1949.] 6 pp. 15c.
Sources of Supplementary Materials for Health Instruction. [November, 1949.] 12 pp. 25c.
Suggested Standards for Health Services in Secondary Schools. [May Year Book 1952.] 12 pp. 15c.
Tax-Supported Medical Care for the Needy. [Oct. 1952.] 20 pp. 25c.
Ventilation and Atmospheric Pollution. E. R. Hayhurst, Chairman. [July, 1943.] 7 pp. 15c.
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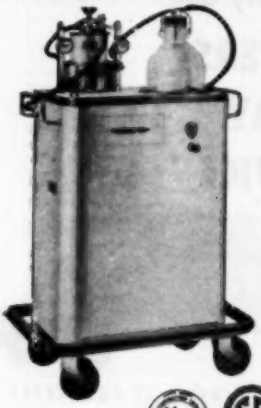

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* Physiol. Rev. 20, 249 (1940).

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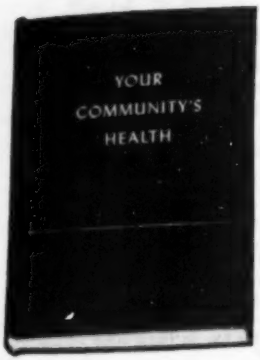

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